

FTP(FILE Transmissionn Protocol)works on_____port.

- **21**

Which of the following is NOT tre for java inner classes?

- **Generally used as public utility classes**

Which statement from the following statements is true abot a java Anontmous Inner Class

- It is difficult to nderstand
- It has no name
- It is much shorter
- **All of the given options**

While running following ExceptionExample java class on command line withot passing command line arguments gives_____exception.

```
Public class ExceptionExample{  
  
Public static void main(String args[]){  
  
System.ot.println(args[0]);  
  
}}
```

- **Array index out of bond exception**

Exception handling code is written in_____

- **Catch block**

Which of the following streams is a byte oriented stream?

- **FileInputStream**

Which of the following statements is true about primitive data types and reference data types?

- **Primitive data types are created on stack whereas references are created on heap**

Which command of the following commands is used compile "JavaTest" java file's code?

- **Javac java Test.Java**

Which of the following statements is true regarding paintComponent() method?

- **It first paints the background and then performs custom painting.**

WindowListener interface contains _____ methods

- **Seven**

HashMap takes key as a/an _____

- **Object**

Adapter classes have been defined for listener interfaces except _____ in...

- **ActionListener**

Interface imposes _____ structure on any class that uses interface

- **Design**

Which of the following is NOT true about paintComponent() method?

- **Tells the components border(if any) to paint.**

An object of Student java class is creating and setting its value in Test java class _____ error is there in given code.

```
Public class Test{
```

```
Public static void main(String args[]){
```

```
Student s2=new Student();
```

```
S2->setName("Aslam");
```

}

- **setName method should not be accessed by arrow operator**

int l=(int)(Math.random()*5); // will generate random numbers between_____

- **0 & 4**

Mouse events can be trapped for_____GUI component.

- jButton
- **All of given**
- JFrame
- JPanel

In given lines of code Employee is superclass,Teacher is child class_____is applying Employee e=new Teacher();

- **Upcasting Teacher to Employee type**

Which of the following statements is true regarding paintChildren()method?

- **It first paints the background and then performs custom painting**

_____is required in order to get an object from collection.

- **Down casting**

In java ,adpter classes have been defined for the following listener interfaces except for_____interface

- **itemListener**

In ResultSetMetaData methods_____method returns the number of columns in the result set.

- **getColumn()**

Which of the following statements is used to attach an input stream to console?

- **FileReader fr = new FileReader("input.txt");**

Which of the following methods is used to determine whether a database is read only or not?

- **isReadOnly()**

By implementing this interface, a class declares that it is willing to be _____ by automatic machinery.

- **Read**

Mouse motion event is generated when mouse is:

- **Dragged**

A scrollable and update ResultSet object has the following capabilities except_____

- **Delete rows**

In the context of java Graphics, paintChildren() method tells any component contained by this component to paint itself.

- **True**
- False

If a class implements an interface then_____

- **A class provide implementation of all methods of interface**

A variable declared as static in a class is a/an_____

- **Class variable**

ArrayList is an example of _____ collection type.

- **Sequence based**

Following are the code statements used in java event handling identify the code statement that is used for registering event handler with event generator

- **B1.addActionListener(this)**

In ResultSetMetaData methods_____method returns the SQL type for the column to compare against types in java.sql Types.

- **getColumnType(int)**

Which feature of the following features is not included in Java language?

- **Pointer manipulation**

Which of the following is a general purpose container?

- **Jpanel**

Choose the correct syntax to declare an abstract java class named as "person".

- **Public abstract class Person{}**

Which of the following methods of Graphics object is used to draw rectangle?

- **drawRect(10,10,20,20);**

What will happen if main method is declared as private?

- **The program will throw an exception at run time**

Which of the following methods is called only once during the life cycle of an Apple?

- **Init()**

Which of the following statements attaches an output stream to console?

- **FileWriter fw = new FileWriter("otput.txt");**

If there is a class "Stdent. Then the java file must be saved with_____ name.

- **Student.java**

If the subclass overrides all the abstract methods of super class, then subclass is called_____

- **Concrete class**

Which of the following functions is declared in MouseMotionListener interface?

- **Public void mouseDragged(MouseEvent me);**

Which of the following is NOT true for java inner classes?

- **Generally used as public utility classes**

Java compiler is called_____on UNIX or windows

- **Javac**

Mouse motion event is generated when mouse is:

- **Dragged**

ArrayList is an example of _____collection type.

- Sequence based

In the context of java Graphics : most of time painting is done automatically.

- **True**
- False

Which of the following is the correct way to access writeObject()function sing"out"object of ObjectOutputStream class.

- **Out.writeObject()**

Which of the following is a valid variable name in java?

- **NumberOfStdent**

Teacher.java vclass wants to inherit from Employee.java

class_____keyword should be used in blank space in given code to apply inheritance.

```
Class Teacher.....Employee{
```

```
Public static void main(String args[]){
```

```
}}
```

- **Extends**

If we want to call toString() method of parent class in JAVA. which of the following statements will be used?

- **New.toString();**

In polymorphism_____are overridden.

- **Classes**

Which of the following classes is capable to instantiate?

- **Concrete class**

JDBC-ODBC stands for

- **Java database Connectivity-Open DataBase Connectivity**

In java_____types of statement objects are available for sending SQL queries to the databases.

- **Three**

The "MouseDragged" and "mouseMoved" methods are defined in_____interface

- **MouseMotionListener**

DML stand for

- **Data Manipulation Language**

Based on functionality, the streams can be categorized as_____

- **Node stream and filter stream**

Which of the following is true about AWT and SWING components?

- **Both AWT and SWING component creates a process**

Which of the following syntax is used to create a client socket?

- **Socket s = new Socket("serverName".serverPort):**

_____ is correct syntax to get component area of my frame top level container.

- **Container c=myframe.getContentPane():**

CREATE,ALTER,DROP are_____SQL statements.

- **DDL**

Exception handling code is written in _____

- **Catch block**

Which of the following feature is available in java?

- **Primitive data type**

DSN stands for _____

- **Data source name**

Which of the following object is used to executing using same query multiple times by only changing parameters?

- **preparedStatement**

When there is just a onetime use of a particular object of a java class we use

- anonymous object

Which of the following is the correct way to access writeObject() function using “out” object of ObjectOutputStream class.

- **Out.writeObject()**

Which feature of the following features is not included in java language

- **Pointer manipulation**

Which of the following commands is used to invoke an Applet from command line interpreter?

- **Appletviewer javafile**

Window.frame and dialog use _____ as their default layout.

- **Border layout**

Given code is showing the result of addition of two integer type numbers. Choose correct output of this code.

```
Int i=7; int j=8; int k = i+j;
```

```
System.out.print(“Seven” +i+ “plus Eight” +j+ “is” +k);
```

- **Seven 7 plus Eight 8 is 15**

Following are the code statements used in java event handling. Identify the code statement that is used for registering event handler with event generator

- **B1.addActionListener(this)**

What happen if static modifier is removed from the signature of main method?

- **The program will not compile**

In ResultSetMetaData methods _____ method returns the suggested column label for printouts.

- **getColumnLabel()**

TELNET works on _____port

- **23**

Which feature of the following features is not included in java language?

- **Pointer manipulation**

The toString() method returns a _____representation of _____

- **Stringj.object**

Which of the given Listener Interface is need to handle the “ActionEvent”?

- **ActionLitener**

Which of the following method is used to execute INSERT,UPDATE, and Delete SQL statements?

- **executeQuery(sql);**

Which of the following features is available in java?

- **Primitive data types**

Following are the code statement used in java event handling.Identify the code statement that is used for registering event handler with event generator

- **Frame.setSize(150,150)**

Previous() is a method of _____object

- **ResultSet**

Which of the following driver type(s) has better performance than other?

- **Type 4 :Native-portion/all-java driver**

For a programmer that event handling is a three step process in terms of code .Which of the following is NOT an event handling step?

- **Publish event**

Which of the following features does not java provide?

- **Function Overriding**

What happen if static modifier is removed from the signature of main method?

- **The program woll compile bt run**

Bytecodes are pt in memory by_____

- **Class loader**

Which of the following is the correct syntax to make a personInfo class into a serialization class

- **Public class personInfo implements Serializable{/*class body */}**

Ther following code creates and starts a timer that fires an action event once per_____

Timer t =new Timer(1000,this);

t.start();

- **Second**

Which of the following fnction is declared in MouseMotionListener interface?

- **Public void moseDragged(MoseEvent me);**

Which of the following classes provide definitions for all the methods(empty bodies)of their corresponding Listener interface?

- **Adapter classes**

What will happen if main method is declared as private?

- **The program will throw an exception at run time**

To make sure array accesses touch only the memory allocated to them, JVM does _____ checking at run time.

- **Dynamic**

1) Choose the correct option in terms of issues related to professional responsibility.

- Confidentiality
- Intellectual property rights
- **Both confidentiality & intellectual property rights**
- Managing Client Relationships

2) Efficiency in a software product does not include _____

- **Licensing**

3) As per an IBM report, "31% of the project get cancelled before they are completed, 53% overrun their cost estimates by an average of 189% and for every 100 projects, there are 94 restarts". What is the reason for these statistics?

- **Lack of adequate training in software engineering**

4) The reason for software bugs and failures is due to

- **Both software companies and Developers**

5) Build and fix Model is suitable for programming exercises of _____ LOC (line of code).

- **100-200**

6) RAD stands for

- **Rapid Application Development**

7) Which one of the following models is not suitable for accommodating any change?

- **Waterfall Model**

8) Which is not one of the types of prototype of Prototyping Model?

- **Diagonal prototype**

9) Which one of the following is not a phase of prototyping Model?

- **Coding**

10) Which of the following statements regarding Build and fix Model is wrong?

- **It scales up well to large projects**

11) RAD Model has

- **5 phases**

12) What is the major drawback of single RAD Model?

- **Increases reusability of components, Highly specialized and skilled developers/designers are required**

13) SDLC stands for

- **Software Development Life Cycle**

14) Which model can be selected if user is involved in all the phases of SDLC?

- **RAD Model**

15) What are the types of requirements?

- Availability
- Reliability
- Usability
- **All of the mention**

16) Select the developer-specific requirements?

- **Both portability and maintainability**

17) Which one of the following is not a step of engineering?

- Design

18) FAST stands for

- Facilitated Application Specification Technique

19) QFD stands for

- Quality function deployment

20) A Use-case actor is always a person having a role that different people may play.

- True
- False

21) The user system requirements are the parts of which document?

- SRS

22) A stakeholder is anyone who will purchase the completed software system under development.

- True
- False

23) Conflicting requirements are common in Requirements Engineering, with each client proposing his or her version is the right one.

- True
- False

24) Which is one of the most important stakeholder from the following?

- Users of the software

25) Which of the following property does not correspond to a good Software Requirements Specification (SRS)?

- Ambiguous

26)The SRS document is also known as_____

- Black-box

27)Which of the following is included in SRS?

- Design Constraints

28)The Unified Modeling Language(UML) has become an effective standard for software modeling.How many different notations does it have?

- Nine

29)Which model in system modeling depicts the dynamic behavior of the system?

- Behavioral Model

30)Which model in system mode depicts the static nature of the system?

- Structral Model

31)Which perspective in system modeling shows the system or data architecture?

- Structal perspective

32)Activity diagrams are used to model the processing of data.

- True
- False

33)Model-driven engineering is just a theoretical concept.It cannot be converted into a working/executable code.

- True
- False

34)The UML supports event-based modeling using_____diagrams.

- **State chart**

35) Which is the first step in the software development life cycle?

- **Problem/opportunity identification**

36) Which tool is used for structured designing?

- **Structure chart**

37) A step by step instruction used to solve a problem is known as

- **An algorithm**

38) In the Analysis phase the development of the _____ occurs which is a clear statement of the goals of the project.

- **Program specification**

1) Which of the following method is used to execute INSERT, UPDATE and Delete SQL statement?

- **executeUpdate(sql):**

2) HashMap takes key as a/an _____

- **Object**

3) ArrayList is an example of _____ collection type.

- **Sequence based**

4) If we want to animate something like ball, moving from one place to another, we constantly need to call point() method

- True
- **False**

5) Which of the following is a general purpose container?

- **Jpanel**

6)ResultSet provides various getters to retrieve_____

- **Data of the column**

7)In editor java programs are created while stored on/in_____

- **Disk**

8)If a class needs to handle events generated by button then which of the following interface a class needs to implement?

- **ActionListener**

9)Which of the following classes provide definitions for all the methods(empty bodies)of their corresponding listener interface?

- **Adapter classes**

10) Which of the following is called “pre abstract class”?

- **Interface**

11) A default ResultSet object has a cursor that_____

- **Moves forward only**

12) Which of the given will clear all the previous painting?

- **Super.paintComponent()**

13)Which of the following is NOT a method of ResultSet object?

- **executeQuery(sql)**

14)Java defines_____for the listener interfaces having more than one event handling methods.

- **Adapter classes**

15)Which of the following feature is not included in java?

- **Pointer manipulation**

16) Which of the following is a correct registration method for focus Listener interface?

- **addFocsListener**

17) All AWT and swing components generate events.

- **True**
- False

18)_____is/are not part of java core langage.

- **ArrayList class**

19) The collection API are defined in_____package.

- **Java.util**

20) Which of the following statement object is used to execute precompiled SQL statements?

- **PrepareStatement**

21) Java does not handle exception by_____as keyword.

- **Exception**

22) The _____is directly connected with keyboard.

- **Node stream**

23) In given lines of code_____is applying.

Doble a =9.5;

Int b = (int)a;

- **Downcasting a to b type**

24) Which of the following method is used to determine whether a database is read only or not?

- **isReadOnly()**

25) HTTP works on port _____

- **80**

26) If a class implements an interface then _____

- **An interface must provide implementation of all methods**

27) DDL stands for?

- **Data Definition Language**

28) Which of the following statement object is used to execute stored procedures?

- **CallableStatement**

29) Which of the following package needs to be imported while handling files?

- **java.io**

30) The given line of code will result in _____

`System.out.println(5+9)`

- **14**

31) If a JPanel has a triangle drawn on it then which of the following methods will display it?

- **paintChildren()**

32) Socket is a _____ communication channel between hosts.

- **Bi-directional**

33) The collection APIs are defined in _____ package.

- **Java.util**

34) If a class needs to handle events generated by button then which of the following interface a class needs to implement?

- **ActionListener**

35) In java _____ types of statement objects are available for sending SQL queries to the databases.

- **Three**

36) For a programmer the event handling is a three step process in terms of code. Which of the following is NOT an event handling step?

- **Publish event**

37) A port is a _____ to which processes can listen for connections request.

- **Client Address**

38) Which of the following methods is called only one during the life cycle of an APPLET?

- **Destroy()**

39) DSN stands for _____

- **Data Source Name**

40) Which of the following is a correct statement for "mouse release" event in "MouseListener" interface?

- **Public void mouseReleased(MouseEvent me)**

41) Which of the following feature is not included in java?

- **Pointer manipulation**

42) Which of the following package needs to import while interacting with relational database?

- **Java.sql**

43) Which of the following function will be used to register event handler with events generator, where event generator is button?

- **addActionListener()**

44) Which of the following will clear all the previous painting

- **super.paintComponent()**

45) An object of Student.java class is created and setting its value in Test.java class _____ error is there in given code.

```
Public class Test{  
  
Public static void main(String args[]){  
  
    Student s2 = new Student();  
  
    S2 -> setName("Aslam");  
  
}
```

- **setName method should not be accessed by arrow operator**

46) _____ in a collection class creates a collection with no elements.

- **Constructor**

47) == operator compares _____ of strings whereas equals() method compares _____ of strings.

- **Addresses, values**

48) Which of the following command is used to compile java code?

- **Javac filename.java**

49) Which of the following is a correct registration method for Focus Listener interface?

- **addFocusListener**

50) Which of the given Listener Interface is needed to handle the "ActionEvent"?

- **ActionListener**

51) There are _____ steps in order to communicate successfully with database.

- **Eight**

52) Which of the following method is used to convert a string into an int value?

- **parseInt()**

53) How many ports are available for TCP socket?

- **64K**

54) Converting a bigger data type into smaller data type is called _____

- **Down-casting**

55) A database that is created in MS Access 2003 will be saved with _____

- **.mdb**

56)) Which of the following is capable to instantiate?

- **Concrete classes**

57) In given lines of code Employee is super class, Teacher is child class _____ is applying

```
Employee e = new Teacher();
```

- **Downcasting Teacher to Employee type**

58) Which of the following is true abstract class?

- **An abstract class must have all methods declared as abstract methods.**

59) Times are constructed by specifying both a delay parameter and a/an _____ Listener.

- **Action**

60) FTP (File Transmission Protocol) works on _____ port.

- 21

61) Which of the following is NOT true for java inner classes?

- Generally used as public utility classes

62) Which statement from the following statements is true about a java Anonymous Inner Class

- It is difficult to understand
- It has no name
- It is much shorter

- **All of the given options**

63) While running following ExceptionExample.java class on command line without passing command line arguments gives _____ Exception.

```
Public class ExceptionExample{
    Public static void main(String args[]){
        System.out.println(args[0]);
    }
}
```

- **Array index out of bound exception**

64) Exception handling code is written in _____

- **Catch block**

65) Let suppose a column has index 5 in the ResultSet object. Which of the following statement is used to retrieve the column values?

- **String name = rs.getString(5)**

66) Which of the following streams is a byte oriented stream?

- **FileInputStream**

67) Which of the following statements is true about primitive data types and reference data types?

- Primitive data types are created on stack whereas references are created on heap

68) Which command of the following commands is used to compile "javaTest.java" file's code?

- **Javac javaTest.java**

69) Which of the following statements is true regarding paintComponent() method?

- **It first paints the background and then performs custom painting.**

70) WindowListener interface contains _____ methods.

- **Seven**

71) HashMap takes key as a/an _____

- **Object**

72) Adapter classes have been defined for listener interfaces except _____

- **ActionListener**

73) Interface imposes _____ structure on any class that uses interface

- **Design**

74) Which of the following is NOT true about paintComponent() method?

- **Tells the components border(if any) to paint.**

75) An object of Student.java class is creating and setting its value in Test.java class. _____ error is given code.

```
Public class Test{  
  
Public static void main(String args[]){  
  
Stdent s2 = new Student();  
  
S2->setName("Aslam");  
  
}
```

- **setName method should not be accessed by arrow operator**

76) The "MouseDragged" and "mouseMoved" methods are defined in _____ interface.

- **MouseMotionListener**

77) previous() is a method of _____ object.

- **ResultSet**

78) Which of the following driver type(s) has better performance than other?

- **Type 4: Native-protocol/all-java driver**

79) For a programmer the event handling is a three step process in terms of code. Which of the following is NOT an event handling step?

- **Publish event**

80) Which feature of the following features does java provide?

- **Function Overriding**

81)What will happen if static modifier is removed from the signature of main method?

- **The program will compile but not run**

82)Bytecodes are put in memory by_____

- **Class loader**

83)Which of the following is correct syntax to make a personInfo class into a Serializable class

- **Public class PersonInfo implements Serializable{/*class body*/}**

84)Thev following code creates and starts a timer that fires an action event once per_____

Timer t = new Timer(1000,this):

t.start();

- **Second**

85)CmdArgs java class is compiled.If the command “java CmdArgs CS506 “rn in cmd , then what will be output of given code.

```
Public class CmdArgs{
```

```
Pblic static void main(String[]args){
```

```
System.ot.println(“First arguments”+args[0]);
```

```
}
```

- **CS506**

86)Which of the following functions is declare in MoseMotionListener interface?

- **Public void mouseDragged(MouseEvent me)**

87)What will happen if main method is declared as private?

- **The program will throw an exception at run time**

88)To make sure array accesses touch only the memory allocated to them.JVM does_____checking at runtime.

- **dynamic**

89)Which of the following is correct java code statement that is used to establish the connection?

- Connection con = DriverManager.getConnection(conURL)

90)Which of the following statement object is used to execute stored procedures?

- CallableStatement

91)Which of the given methods is/ are declared for"MouseListener" interface?

- MousePressed

92)Which of the following is NOT true for java inner classes?

- Generally used as public utility classes

93)== operator compares_____of strings whereas equals() method compares____of strings.

- Addresses.values

94)Suppose string are stored in a collection "arraylist". Get one string element and store in element variable.

Choose correct line of code for this requirement.

- String element = (String)arraylist.get(i);

95)DML stands for?

- Data Manipulation Language

96) Which of the following object is passed as an argument to `paintComponent()` method?

- Graphics object

97) Which of the following is a DDL statement?

- Create

98) The class that handles mouse event needs to implement the corresponding interface and to provide the definition of:

- All the method in that interface

99) _____ is the correct syntax to set size of top-level container "myFrame" as 200 rows in pixel and 400 columns in pixel

- `myFrame.setSize(200,400);`

100) Teacher.java class wants to inherit from Employee.java class _____ keyword should be used in blank space in given

Class Teacher _____ Employee{

Public static void main(String args[]){

}}

- **extends**

CS506 WEB DESIGN AND DEVELOPMENT
GRAND QUIZ SPRING 2021
MCS FAMILY GROUP TEAM
BY: ARSAL SHANI & AINA MALIK & Family Team
Contact No: 0308 8805250

1. Java is a _____ language.

- Complicated.
- Not portable
- Static
- **Multi-threaded. (Page 4)**

From the original Sun Java whitepaper: "Java is a simple, object-oriented, distributed, interpreted, robust, secure, architecture-neutral, portable, high-performance, multi-threaded, and dynamic language."

2. An applet can be defined as:

- **A small program written in java and included in an HTML page. (Page 181)**
- A small program written in JSP and included in an HTML page.
- A small program written in servlet and included in an HTML page.
- A small program written in JSF and included in an HTML page.

Lecture 20: Applets

20.1 Basic Definition

- **A small program written in Java and included in a HTML page.**

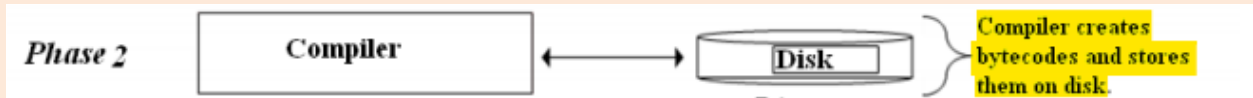
3. Based on functionality , the streams can be categorized as _____

- Byte oriented stream and Node stream
- Filter stream and character-oriented stream
- **Node stream and Filter stream. (Page 69)**
- Byte oriented stream and character-oriented stream

Based on functionality streams can be categorized as Node Stream and Filter Stream. Node

4. Bytecodes are created and stored on disk by _____

- editor
- **compiler (Page 11)**
- class loader
- bytecode verifier



5. Static methods can only access _____

- Instance variables
- Instance methods
- **Static variables and methods** (Page 33 + Google)
- Both static and instance members

Static methods only have access to other static variables and static methods. Static

A class can have static variables and methods. Static variables and methods are associated with the class itself and are not tied to any particular object. Therefore statics can be accessed without instantiating an object. Static methods and variables are generally accessed by class name.

6. Which of the following classes provide definitions for all the methods (empty bodies) of their corresponding Listener interface?

- Private classes
- Public classes
- **Adapter classes** (Page 118)
- Inner classes

Adapter classes provide definitions for all the methods (empty bodies) of their corresponding Listener interface

7. How many simultaneous connections can be opened using TCP and UDP ports?

- 64
- 128
- 64k
- **128k** (Page 193)

There are 64k ports available for TCP sockets and 64k ports available for UDP, so at least theoretically we can open 128k simultaneous connections.

8. Strings in java are represented as _____

- Operators
- Primitive Data Types
- **Reference data types** (Page 19+32)
- Native data types

as a unit. **Strings in java are represented as objects.**

Objects are always passed by reference and primitives are always passed by value

Strings in Java fall under the category of **Reference/Complex Object data types**. They

9. In given lines of code Employee is super class, Teacher is child class, _____ is applying.

```
Employee e = new Teacher();
```

- Upcasting Teacher to Employee type
- **Upcasting Employee to Teacher type** (Page 44)
- Downcasting Teacher to Employee
- Downcasting Employee to Teacher type

o **Classes**

```
Employee e = new Teacher( );// up-casting  
Teacher t= (Teacher) e;// down-casting
```

10. The following is an example of _____ .

```
FileReader fr = new FileReader("input.txt");
```

- Byte oriented stream
- **Node stream** (Page 69)
- Filter stream
- File stream

```
FileReader fr = new FileReader("input.txt");
```

You can see that FileReader is taking a data/source "input.txt" as its argument and hence it is a node stream.

11. Which of the following is called "Pure abstract class"?

- Concrete class
- Wrapper class
- **Interface** (Page 84)
- Abstract class with no abstract method

Interfaces are special java type which contains only a set of method prototypes, but does not provide the implementation for these prototypes. All the methods inside an interface are abstract by default thus an interface is tantamount to a pure abstract class - a class with zero implementation. Interface

12. Which of the following feature provides the facility for multiple inheritance?

- Adapter classes
- Wrapper classes
- **Interfaces**
- Collections

(Page 85+86)

Similar to abstract class, interfaces imposes a design structure on any class that uses the

interface. Contrary to inheritance, a class can implement more than one interfaces. To do this separate the interface names with comma. This is java's way of multiple inheritance.

13. SetColor() is a method of _____ object.

- JPanel
- JFrame
- **Graphics**
- Image

(Page 172)

```
// Down casting Graphics object to Graphics2D
Graphics2D g2 = (Graphics2D)g;
// drawing rectangle
g2.drawRect(20,20,20,20);
// changing the color to blue
g2.setColor(Color.blue);
```

14. If we want to animate something like ball, moving from one place to another we constantly need to call paint()

- True
- **False**

(Page 174)

If we want to animate something like ball, moving from one place to another, we constantly need to call paintComponent() method and to draw the shape (ball etc.) at new place

15. If we want to call toString() method of parent class in JAVA. Which of the following statement will be used?

- this.toString();
- new.toString();
- sub.toString();
- **super.toString();**

(Page 40 + Google)

```
//overriding toString method of Employee class
public String toString() {
    System.out.println("in teacher's toString method");
    String emp = super.toString();
}
```

super keyword is used to call parent class methods in case of inheritance.

Every class is the child of object class in java and one of its non-final methods is toString().

So super.toString() calls object class method toString().

16. Which of the following syntax is used to create a client socket?

- Scket s = new Socket("serverName");
- Soccket s = new Socket(serverPort);
- **Socket s = new Socket("serverName", serverPort); (Page 195)**
- Socket s = new Socket(serverPort, "serverName");

Create a client socket (communication socket)

```
Socket s = new Socket("serverName", serverPort);
```

17. In the context of Java Graphics, paintChildren() method tells any component contained by this component to paint itself.

- **True (Page 170)**
- False

paintChildren()

Tells any components contained by this component to paint themselves

18. Mouse events can be trapped for _____ GUI component.

- JPanel
- JFrame
- Jbutton
- **All of given (Page 113)**

Mouse events can be trapped for any GUI component that inherits from Component class. For example, JPanel, JFrame & JButton etc.

19. What will happen if static modifier is removed from the signature of main method ?

- The program does not compiled
- The program compiles and runs successfully
- **The program compiles but does not run (Google)**
- None of given option

method is defined. If we omit static keyword before main Java program will successfully compile but it won't execute.

20. Window frame and dialog use _____ as their default layout.

- **Border layout** (Google)

- Flow layout
- GridBag layout
- GridLayout

BorderLayout takes no arguments. It is also the default layout for Window, Frame and Dialog classes as it is used to draw the borders on the screen in the form of frames.

21. Exception handling code is written in _____

- try block
- **catch block** (Page 56)
- finally block
- throws clause

Catch block

- Code inside this block is used for exception handling

22. Suppose strings are stored in a collection "arraylist". Get one string element and store in element variable.

Choose correct line of code for this requirement.

- String element = String arraylist.get(i);
- **String element = (String) arraylist.get(i);** (Page 45)
- String element = element arraylist.get(i);
- String element = (element) arraylist.get(i);

actual type. For example, if string is stored in a collection then to get it back, we write

String element = (String)arraylist.get(i);

23. Converting a bigger data type into smaller data type is called _____.

- Up-casting
- **Down-casting** (Page 44)
- Normal-casting
- High-casting

Down-casting

- converting a bigger data type into smaller one

24. Which of the following method is used to convert a string into an int value?

- intValue()
- **parseInt()** (Page 25)
- ParseInt()

- `parseInt()`

Our task is to print square of a number on console, so we first convert a string into a number by calling `parseInt` method of Integer wrapper class. This is what we done on line

25. Which of the following methods is invoked by the AWT package to support paint and repaint operations?

- `paint()`
- **`repaint()`** (Page 174 + Google)
- `draw()`
- `redraw()`

Java gives us a solution in the form of `repaint()` method. Whenever we need to repaint, we call this method that in fact makes a call to `paint()` method at appropriate time.

Ans : The `paint()` method supports painting via a Graphics object. The `repaint()` method is used to cause `paint()` to be invoked by the AWT painting method.

26. Adapter classes have been defined for listener interfaces except _____ interface.

- `MouseListener`
- `KeyListener`
- `WindowListener`
- **`ActionListener`** (Page 119)

Listener	Adapter Class (If Any)	Registration Method
<code>ActionListener</code>		<code>addActionListener</code>

27. Which of the following is correct java code statement that is used to establish the connection?

- **`Connection con = DriverManager.getConnection(conURL)`** (Page 133)
- `connection Con = driverManager.getConnection(conURL)`
- `connection Con = driverManager.getConnection(conURL)`
- `Connection con = driverManager.getConnection(conURL)`

The URL of the database is passed to the `getConnection` method.

`Connection con = DriverManager.getConnection(conURL);`

28. Which of the following method is used to execute INSERT, UPDATE and DELETE SQL statements?

- `executreQuery(sql);`

- ExecuteQuery(sql);
- **executeUpdate(sql);** (Page 134)
- ExecuteUpdate(sql);

o **executeUpdate(sql) method**

This method is used for executing an update statement like INSERT, UPDATE or DELETE

29. Which of the following is a general purpose container?

- JFrame
- Dialog
- **JPanel** (Page 90)
- JApplet

Examples of general purpose container are JPanel, Toolbar and ScrollPane etc.

30. ResultSet provides various getters to retrieve _____.

- **Data of the column** (Page 134)
- Data of the row
- Data of the row and column
- Column headers

Always remember to call next() method at least once

- To retrieve the data of the column of the current row you need to use the various getters provided by the ResultSet.

31. In editor java programs are created while they are stored on/in _____.

- **Disk** (Page 11)
- Primary memory
- External file
- Usb

When the programmer specifies that the file in the editor should be saved, the program is stored on a secondary storage device such as a disk. Java program file name ends with a .java extension.

32. If a class needs to handle event generated by button then which of the following interface a class needs to implement?

- ComponentListener
- KeyListener
- MouseListener
- **ActionListener** (Page 106)

o To handle events generated by Button. A class needs to implement ActionListener interface and thus needs to provide the definition of

33. A default ResultSet object has a cursor that _____.

- Moves backward only

- **Moves forward only** (Page 143)
- Moves backward and forward
- Cannot move

• A default ResultSet object is not updatable and has a cursor that moves forward only.

34. Which of the given will clear all the previous painting?

- **super.paintComponent()** (Page 175)
- super.paint
- super.repaint()
- super.redraw()

```
// erasing behaviour - this will clear all the previous painting
super.paintComponent(g);
```

35. Which of the following is NOT a method of ResultSet object?

- next()
- absolute(int)
- **executeQuery(sql)** (Page 144,145,146,147)
- updateRow()

16.1.2 Useful ResultSet's Methods

16.1.2.1 next()

16.1.2.7 absolute(int)

16.1.2.9 updateRow()

36. Which of the following feature is not included in Java?

- Inheritance
- Polymorphism
- **Pointer manipulation** (Page 28)
- Data encapsulation

(not counting import directives). OOP fundamental stones Encapsulation, Inheritance and Polymorphism etc. are all fully supported by java.

37. Which of the following is a correct registration method for Focus Listener interface?

- **addFocusListener** (Page 119)
- addFousedListener
- regFoucListener
- regFousedListener

FocusListener	FocusAdapter	addFocusListener

38. All AWT and swing component generate events.

- **True** (Page 103)
- False

Both AWT and swing components (not all) generate events

39. _____ is/are not part of java core language.

- **ArrayList class** (Page 4)
- Variables
- Arrays
- Objects

Java has two parts.

o The core language -- variables, arrays, objects

40. Which of the following statement object is used to execute precompiled SQL statements?

- Statement
- **PreparedStatement** (Page 140)
- CallableStatement
- None of given

- The PreparedStatement are used for executing precompiled SQL statements and passing in different parameters to it.

41. The _____ is directly connected with keyboard

- File stream
- Character oriented stream
- **Node stream** (Page 69)
- Filter stream

Based on functionality streams can be categorized as Node Stream and Filter Stream. Node Streams are those which connect directly with the data source/sink and provide basic functionality to read/write data from that source/sink

42. Java does not handle exception by _____ as keyword.

- Try
- Catch
- **Exception** (Page 56)
- Finally

Java handles exceptions via 5 keywords. Try, catch, finally, throw & throws.

43. Which of the following method is used to determine whether a database is read only or not?

- isReadOnly()
- **isReadOnly()** (Page 160)
- isreadonly()
- IsReadOnly()

```
// printing whether database is read-only or not
boolean rOnly = dbMetaData.isReadOnly();
```

44. HTTP works on port _____.

- 21
- 23
- **80** (Page 193)
- 84

HTTP works on port 80

45. DDL stands for?

- **Data Definition Language** (Page 137)
- Data Driven Language
- Database Definition Language
- Database Driven Language
- Also supports DDL (Data Definition Language) st

46. Which of the following statement object is used to execute stored procedures?

- Statement
- PreparedStatement
- **CallableStatement** (Page 140)
- None of given options

15.2.3 CallableStatement

- These are used for executing stored procedures.

47. Which of the following package needs to be import while handling files?

- java.util
- **java.io** (Page 77)
- java.awt
- javax.swing

FileReader is a character based (node) stream that helps us in reading data in the form of characters. As we are using streams, so we have to import the java.io package in the

File handling in Java implies reading from and writing data to a file. The File class from the java.io package, allows us to work with different formats of files. In order to use the File

48. Socket is a _____ communication channel between hosts.

- uni-directional
- **bi-directional**
- tri-directional
- multi-directional

(Page 193)

- A socket is a bi-directional communication channel between hosts.

49. In Java, _____ types of statement objects are available for sending SQL queries to the databases.

- Two
- **Three**
- Four
- Five

(Page 140)

- As we have discussed in the previous handout that through Statement objects, SQL queries are sent to the databases.
- Three types of Statement objects are available. These are:

50. A port is a _____ to which processes can listen for connections request.

- Local Address
- Server Address
- Client Address
- **Transport Address**

(Page 193)

- It is a transport address to which processes can listen for connections request.

51. While running following ExceptionExample.java class on command line without passing command line arguments gives ____ exception.

```
Public class ExceptionExample {
public static void main (String args[ ]){
System.out.println(args[ ]);
}
}
```

- Null pointer exception
- **Array index out of bound exception**
- Divide by zero exception
- IO Exception

(Page 58)

```
// File UcException.java public class UcException {
public static void main (String args[ ]) {
System.out.println(args[0]);
}
}
```

Compile & Execute

If we compile & execute the above program without passing any command line argument, an `ArrayIndexOutOfBoundsException` would be thrown. This is shown in the

52. `getColumnCount()` is a method of ____ object.

- Statement
- ResultSet
- **ResultSetMetaData** (Page 157)
- DataBaseMetaData

17.1.2 Useful ResultSetMetaData methods

17.1.2.1 `getColumnCount()`

53. TELNET works on ____ port.

- 21
- **23** (Page 193)
- 80
- 84

TELNET works on port 23 etc.

54. The classes which contain the word ____ in their names are byte oriented streams.

- Reader
- Writer
- **Stream** (Page 71)
- Byte

Classes which contain the word stream in their name are **byte oriented** and are here since JDK1.0.

55. Which of the following is true about primitive data types and reference data types?

- Primitive data types are created on heap whereas references are created on stack
- Both primitive data types and references are created on stack
- **Primitive data types are created on stack whereas references are created on heap.** (Page 22+45)
- Both primitive data types and references are created on heap.

Stack and heap are two important memory areas. Primitives are created on the stack while objects are created on heap. This will be further clarified by looking at the following diagram

Java collections are capable of storing any kind of objects. Collections store references to objects. This is similar to using a void* in C. therefore down casting is required to get the

56. The class that handle mouse event needs to implement the corresponding interface and to provide the definition of.

- One method in that interface
- Two methods in that interface
- **All the methods in that interface**
- Do not need to provide definition of methods that interface

The class that wants to handle mouse event needs to implement the corresponding interface and needs to provide the definition of all the methods in that interface.

57. Which of the following is NOT true about paintComponent() method?

- It is a main method for painting
- By default, it first paints the background
- **Tells the components border (if any) to paint.**
- It performs custom painting (drawing circle, rectangles etc.)

paintComponent()

It is a main method for painting

By default, it first paints the background

After that, it performs custom painting (drawing circle, rectangles etc.)

58. To make sure pointer and array accesses are touching only the memory allocated to them. JVM does ___ checking at runtime.

- **dynamic** (Page 5)
- static
- consistent
- not

The JVM also does "dynamic" checking at runtime for certain operations, such as pointer and array access, to make sure they are touching only the memory they should.

59. An object of Student java class is creating and setting its value in Test.java class. ___ error is there in given code.

```
public class Test{
```

```

public static void main (String args[]){

    Student s2 = new Student();

    s2->setName("Aslam");

}

}

```

- class name is in wrong format
- s2 is not valid name of object of Student class
- **setName method should not be accessed by arrow operator (Page 32)**
- no syntax error

```

public class Test{
    public static void main (String args[]){
        // Make two student obejcts

        Student s1 = new Student("ali", 15);
        Student s2 = new Student(); //call to default costructor
        s1.print(); // display ali and 15
        s2.print(); // display not set and 100
        s2.setName("usman");
    }
}

```

60. All java files in a directory are connected using ____ command in command prompt.

- **javac *.java (Page 6)**
- java all.java
- javac all
- java *.java

On UNIX or windows, the java compiler is called "javac". To compile all the .java files in a directory use "javac *.java".

61. JDBC-ODBC stands for ____.

- Java DataBase Connectivity- Oracle DataBase Connectivity
- Java DataBase Corporation- Open DataBase Corporation
- Java DataBase Corporation- Oracle DataBase Corporation
- **Java DataBase Connectivity- Open DataBase Connectivity (Page 129 + 162)**

Java Database Connectivity (JDBC) provides a standard library for accessing databases. The

ODBC (Open Database Connectivity) calls and

62. Which of the following statement attaches an output stream to console?

- **FileWriter fw = new FileWriter("output.txt"); (Page 75)**
- FileWriter fw = new FileWriter(FileDescriptor out);
- FileWriter fw = new FileWriter(FileDescriptor in);
- FileWriter fw = new FileWriter(FileDescriptor);

```
// attaching node stream with data source
// if file does not exist, it automatically creates it
fw = new FileWriter ("output.txt");
```

63. Assume that we do not want to serialize phoneNum.attribute of Personinfo class, this can be done by;

- server String phoneNum;
- client String phoneNum;
- **transient String phoneNum; (Page 208)**
- serializable String phoneNum;

Assume that we do not want to **serialize phoneNumattribute of PersonInfo class**, this can be

```
transient String phoneNum;
```

64. Java program code is compiled into a form called ____.

- Machine code
- **Byte code (Page 08)**
- Native code
- Source code

Java programs (Source code) are **compiled into a form called Java bytecodes.**

65. The toString() method returns a ____ representation of ____

- int, string
- string, int
- **string, object (Page 34 + Google)**
- object, string

default. This class has already *finalize()* and *toString()* method (used to convert an object state into string). Therefore we are actually overriding these methods

The toString() method returns the string representation of the object. If you print any

66. previous() is a method of ____ object.

- Statement
- **ResultSet (Page 145)**
- ResultSetMetaData
- Connection

previous()

Moves the cursor to the previous row in the ResultSet object, if available

67. In given lines of code ____ is static variable and ____ is static method.

```
System.out.println("CS506");
```

```
JOptionPane.showMessageDialog(null, "CS506")
```

- System, JOptionPane
- PrintIn, showMessageDialog
- PrintIn, JOptionPane
- **Out, showMessageDialog (Page 33+ 34)**

System.out.println("some text");---out is a static variable

showMessageDialog is a static method

68. Which of the following is a valid variable name in Java?

- 1xu
- vu,506
- **NumberOfStudent (Google)**
- long

A variable name is a word that consists only of the following:

- English letters A..Z and a..z;
- Digits 0..9;
- an underscore character "_".

Variable names are case-sensitive. A variable's name can be any legal identifier — an unlimited-length sequence of Unicode letters and digits, beginning with a letter, the dollar sign "\$", or the underscore character "_". The convention, however, is to **always begin your variable names with a letter**, not "\$" or "_". Additionally, the dollar sign character, by convention, is never used at all. You may find some situations

well. When choosing a name for your variables, use full words instead of cryptic abbreviations. Doing so will make your code easier to read

69. A hash map object is to create to store Teacher objects as values and their CNIC in the form of strings as keys.

Which syntax is correct for this requirement?

- `HashMap<String> h = new HashMap<String >();`
- **`HashMap<String, Teacher > h = new HashMap<String, Teacher>();`**
(Page 48)
- `HashMap< Teacher > h = new HashMap<String, Teacher>();`
- `HashMap< Teacher > h = new HashMap< Teacher>();`

// creating HashMap object

`HashMap <String, Student> h = new HashMap<String, Student>();`

70. Which of the following is a top level container?

- JPanel
- ToolBar
- Scrollpane
- **Dialog**

(Page 90)

Examples of top level container are JFrame, Dialog and Applet etc. Our application uses one of these.

71. In the content of Java Graphics. Which of the following methods we should override while painting?

- `paint()`
- **`paintComponent()`** (Page 171)
- `paintBorder()`
- `paintChildren()`

Override the `paintComponent(Graphics g)` method

72. For a programmer the event handling is a three step process in terms of code which of the following is NOT an event handling step?

- Generate event
- Handle event
- **Publish event** (Page 104)
- Register handler with generator

11.2 Event Handling Steps

For a programmer the event Handling is a three step process in terms of code

- **Step 1:** Create components which can generate events (Event Generators)
- **Step 2:** Build component (objects) that can handle events (Event Handlers)
- **Step 3:** Register handlers with generators

73. ResultSet Meta Data will help you in answering the following questions except.

- How many columns are in ResultSet?
- What is the name of the given column?
- **How many rows are in the ResultSet?** (Page 156)
- Are the column name is case sensitive?

ResultSet Meta Data will help you in answering such questions

- How many columns are in the ResultSet?
- What is the name of given column?
- Are the column name case sensitive?

74. Which of the following operator is used to concatenate strings?

- +=
- +-
- ++
- +

(Page 19)

“+” operator is used to concatenate strings

75. _____ returns the elements at specified position in the list.

- **Object get(int index)** (Page 46)
- Object set(int index)
- Object return(int index)
- Object remove(int index)

Object get(int index)

- o Returns the element at the specified position in the list

76. If the subclass overrides all the abstract methods of super class then subclass is called _____.

- Abstract class
- **Concrete class** (Page 82)
- Base class
- Parent class

If subclass overrides all abstract methods of the superclass, then it becomes a concrete (a class)

77. You must include a _____ to declare an exception that might be thrown to another method.

- try block
- finally block
- catch block
- **throws-clause**

(Page 57)

Any exception that is thrown out of a method must be specified as such by a **throws clause**.

78. The output of the given some Test function is _____.

```
public void some test() {  
    Int x;  
    System.out.println(x);  
}
```

- X
- Syntax error
- **Compile time error**
- Run time error

(Page 30)

```
public void someMethod() {  
    int x; //local variable  
    System.out.println(x); // compile time error  
}
```

79. WindowListener interface contains _____ methods.

- Four
- Six
- **Seven**
- Eight

(Page 128)

```
public interface WindowListener {  
    public void windowActivated(WindowEvent we); public void  
    windowClosed(WindowEvent we); public void  
    windowClosing(WindowEvent we); public void  
    windowDeactivated(WindowEvent we); public void  
    windowDeiconified(WindowEvent we); public void  
    windowIconified(WindowEvent we); public void  
    windowOpened(WindowEvent we);  
}
```

80. Which of the following is NOT true for java inner classes?

- Can have constructors
- Can have instance variables
- Can have Methods
- **Generally used as public utility classes (Page 121)**

Inner Classes

- A class defined inside another class
- Inner class can access the instance variables and members of outer class
- It can have constructors, instance variables and methods, just like a regular class
- Generally used as a private utility class which does not need to be seen by others

81. Mouse motion event is generated when mouse is

- Pressed
- Entered
- Clicked
- **Dragged (Page 113)**

- Mouse motion event is generated when mouse is moved or dragged

82. Which of the following method is called only once during the life cycle of an Applet?

- Start()
- Stop()
- Paint()
- **Init() (Page 184)**

20.5.1 init()

- Is called only once.

83. Which of the following method is called only once during the life cycle of an Applet?

- Start()
- Stop()
- Paint()
- **destroy() (Page 185)**

destroy()

- Is called only once.

84. An event in java is represented as _____.

- Operator
- Function
- **Object (Page 103)**

- Primitive data type

In java, events are represented by Objects

85. If ResultSet is TYPE_FORWARD_ONLY then it ____ when you call to the previous () method.

- **Moves the cursor to previous row** (Page 145)
- Returns false if cursor is not on valid row
- Throws an exception
- Executes normally

16.1.2.6 previous()

- Moves the cursor to the previous row in the ResultSet object, if available
- Returns true if cursor is on a valid row, false it is off the result set.
- Throws exception if result type is TYPE_FORWARD_ONLY.

86. ____ is the correct syntax to set size of top-level container “myFrame” as 200 rows in pixel and 400 columns in pixel.

- **myFrame.setSize(200.400)** (Page 91)
- myFramesetSize(400.200)
- myFrame->setSize(200.400)
- myFrame->setSize(400.200)

setSize(rows in pixel, columns in pixel) to be displayed on the screen.

```
frame.setSize(200,300);
frame.setVisible(true);
```

87. int i= (int)(Math.random()*5); // will generate random numbers between ____

- **0 & 4** (Page 187)
- 0 & 5
- 1 & 4
- 1 & 5

int i = (int)(Math.random() * 5); // will generate random numbers between 0 & 4.

88. Java core language is ____ than C++

- **Simpler** (Page 5)
- Difficult
- Complex
- Less secure

- The core language is simpler than C++ -- no operator overloading, no pointers, no multiple inheritance

89. The following is an example of _____

BufferedReader br = new BufferedReader(fr);

- Byte oriented stream
- Node stream
- **Filter stream** (Page 78)
- File stream

Next we add BufferedReader (filter stream) on top of the FileReader because

90. It is verified by – that not all byte codes violate java security restrictions:

- Editor
- Compiler
- Class loader
- **Byte code verifier** (Page 12)

byte code verifier in Phase 4. This ensures that the byte codes for class that are loaded from the internet (referred to as *downloaded classes*) are valid and that they do not violate Java's security restrictions. Java enforces strong security because java programs arriving over the network should

91. Timer class constructor requires time in -----:

- Seconds
- **Mili seconds** (Page 179)
- Micro seconds
- Nano seconds

// Timer class constructor requires time in
// milliseconds and object of class that handles
// action events

92. Which of the following blocks always execute irrespective of exception occurrence:

- Try block
- Catch block
- Throws block
- **Finally block** (Page 56)

finally block

- This block always executes whether exception occurs or not.

93. AWT is a GUI package used in java ,AWT stands for -----:

- Apache Windows Toolkit
- Application Windowing Tools
- Application Windows Template
- **Abstract Windowing Toolkit** (Page 88)

AWT stands for "Abstract Windowing Toolkit" contains original GUI components that

94. Event handling is a ----- step process:

- One
- Two
- **Three** (Page 104)
- Four

For a programmer the event Handling is a three step process in terms of code

95. What will happen if main method is declared as private?

- The program will not compile
- **The program will throw an exception at run time** (Google)
- The program will compile and run successfully
- None of the given option

Yes, we can declare the main method as private in Java.

It compiles successfully without any errors but at the runtime, it says that the main method is not public.

96. If a JPanel has a triangle drawn on it then which of the following methods will display it?

- paint()
- **paintComponent()** (Page 171)
- paintBorder()
- paintChildren()

To become visible your panel will call paintComponent() method which will do your custom drawing

97. Which of the following statements is a correct statement for "mouse release" event in "MouseListener" interface:

- public void mouseRelease(MouseEvent me);
- Public void mouseRelease(MouseEvent me)
- **public void mouseReleased (MouseEvent me);** (Page 114)

- Public void mouseReleased(MouseEvent me)

public void mouseReleased (MouseEvent me);

98. A class that is defined in another class is called -----:

- Private class
- Public class
- **Inner class** (Page 121)
- Derived class

Inner Classes

- **A class defined inside another class**

99. In java, we can read/write to a network using sockets:

- **True** (Page 206)
- False

- **You can read / write to a network using sockets.**

100. Interface imposes ----- structure can any class that uses interface:

- Code
- **Design** (Page 85)
- Implementation
- Inheritance

Similar to abstract class, interfaces imposes a design structure on any class that uses the

101. AWT is also called -----:

- **Heavy weight components** (Page 88)
- Light weight components
- Both light and heavy weight components
- Neither heavy weight nor light weight

AWT components are often called Heavy Weight Components (HWC) as they rely on the local

102. ----- understands the byte code?

- Operating system
- Java compiler
- **Java Virtual Machine** (Page 8+9)
- Java Interpreter

code for any underlying hardware system, rather it compiles it for a software system known as JVM (This compiled code is known as byte code). We have different JVMs for different systems

Java bytecode executes by special software known as a "virtual machine".

103. Which of the following package needs to import while interacting with relational database?

- java.io
- **java.sql**
- javax.swing
- java.awt

(Page 129)

14.2 The java.sql package

The java.sql package contains basic & most of the interfaces and classes. You automatically get this package when you download the J2SE™. You have to import this package whenever you want to interact with a relational database.

104. Which of the following statement regarding java is false?

- Java is a programming language
- **A java program compiles into machine language (Page 8+ Google)**
- Java is case sensitive language
- Java uses an interpreter

program it is known as the source code of java. The java compiler does not compile this source code for any underlying hardware system, rather it compiles it for a software system known as JVM (This compiled code is known as byte code). We have different JVMs for different systems

Byte code is a non-runnable code generated after compilation of source code and it relies on an interpreter to get executed. **Machine code** is a set of instructions in machine language or in binary format and it is directly executed by CPU. 02-Sep-2020

105. Choose the correct syntax to define an interface named as "Speaker" in java language:

- public class Speaker{}
- public interface class Speaker{}
- **public interface Speaker{}**
- public speaker class interface{}

(Page 84+85)

Keyword interface is used instead of class as shown below:

```
public interface Speaker{  
    public void speak();  
}
```

106. Given code is showing the result of addition of two integer type numbers. Choose correct output of this code:

```
int I = 7; int j = 8; int k = i+j;
```

```
System.out.println ("Seven" + I + "plus Eight " + j + "is " + k).
```

- **Seven 7 plus Eight 8 is 15 (Conceptual)**
- Seven i plus Eight j is k
- Seven i plus Eight j is + 15
- Seven plus Eight is k

107. The server just waits, listening to the socket for a client to make a connection request.

- **True (Page 193)**
- False

The server just waits, listening to the socket for a client to make a connection request.

108. In given lines of code ----- is applying:

```
double a = 9.5;
```

```
int b = (int) a;
```

- Upcasting a to b type
- Upcasting b to a type
- **Downcasting a to b type (Page 44)**
- Downcasting b to a type

Down-casting

- **converting a bigger data type into smaller one**
- Explicit - need to mention
- Possible loss of information
- Examples of
 - o Primitives

```
double a = 7.65;
```

```
int b = (int) a;
```

109. In given lines of code ----- is applying:

```
int a = 20;
```

```
double b = a;
```

- **Upcasting a to b type (Page 43)**
- Upcasting b to a type
- Downcasting a to b type
- Downcasting b to a type

Up-casting

- converting a smaller data type into bigger one
- Implicit - we don't have to do something special
- No loss of information
- Examples of
 - o Primitives

```
int a = 10;  
double b = a;
```

110. Choose the correct syntax to declare an abstract java class named as "Person"

- abstract public class Person{}
- public class Person abstract{}
- public class abstract Person{}
- **public abstract class Person{}**

(Page 83)

```
public abstract class Shape{  
    public abstract void calculateArea();  
}
```

111. Which of the given Listener Interface is needed to handle the "KeyEvent"?

- MouseKeyListener
- MotionKeyListener
- **KeyListener**
- KeyActionListener

(Page 105)

o To handle "KeyEvent" a class needs to implement "KeyListener"

112. The method "Math.random()" returns positive double value greater than or equal to 1 or less than 10:

- True
- **False**

(Page 187)

o Math.random() ;

- Returns positive double value greater than or equal to 0.0 or less than 1.0.

113. There are ----- steps in order to communicate successfully with database.

- Six
- Seven
- **Eight**
- Nine

(Page 132)

There are eight (8) basic steps that must be followed in order to successfully communicate with a database. Let's take a detail overview of all these one by one.

114. An applet is a JFrame that allows interaction with a java program:

- True
- **False** (Page 181)

- An applet is a Panel that allows interaction with a Java program

115. DSN stands for -----:

- Data System Name
- Domain system Name
- **Data Source Name** (Page 130)
- Database System Name

After creating database, you have to setup a system Data Source Name (DSN). DSN is a

116. Which of the following method is used to move the cursor to the given row number?

- **absolute(int)** (Page 146)
- absolute()
- move to insert Row(int)
- insert Row()

absolute(int)

Moves the cursor to the given row number in the ResultSet object.

117. Timers are constructed by specifying both a delay parameter and a/an _____ Listener.

- **Action** (Page 179+190)
- Mouse
- Key
- Window

```
// creating a Timer class object, used for firing
// one or more action events after a specified delay
// Timer class constructor requires time in
// milliseconds and object of class that handles
// action events
Timer t = new Timer (5, this);
// starts the timer, causing it to start sending
// action events to listeners
```

```
public class JavaAnim extends JApplet implements ActionListener {  
    // used to count how many times paint is called int clearCounter;  
    // declaring Timer reference  
    Timer t;
```

118. Java compiler is called _____ on UNIX or windows.

- **Javac** (Page 6)
- java c
- cjava
- c java

On UNIX or windows, the java compiler is called "javac".

119. FTP (file transmission Protocol) work on _____ port.

- **21** (Page 193)
- 23
- 80
- 84

FTP works on port 21

120. Which of the following features does Java provide?

- Operator Overloading
- Pointers
- **Function overriding** (Page 5+ Google)
- Multiple interface

The core language is simpler than C++ -- no operator overloading, no pointers, no multiple inheritance

provided by one of its super-classes or parent classes. ... **Method overriding** is one of the way by which **java** achieve Run Time Polymorphism. 17-Feb-2021

121. Which of the following streams is a byte oriented stream?

- FileReader
- PrintWriter
- ButteredReader
- **FileInputStream** (Page 71)

stream in their name are byte-oriented in nature. Examples of byte oriented streams are **FileInputStream, ObjectOutputStream** etc.

122. The relationship between a class and interface is called _____ .

- is a relationship
- Has a relationship
- **Responds to relationship** (Page 85)
- None of the given options

Relationship between a class and interface is equivalent to "responds to"

123. Which of the following stream is a Node stream?

- Printwriter
- **FileWriter** (Page 75)
- Buffered Reader
- All of given option

```
// attaching node stream with data source
// if file does not exist, it automatically creates it
fw = new FileWriter("output.txt");
```

124. In Java Transient fields are returned as null on reading

- **True** (Page 208)
- False

- **Transient fields are returned as null on reading**

125. Which of the following is true about AWT and SWING components?

- **AWT components creates a process whereas SWING component creates a thread** (Page 88+89)
- AWT components creates a thread whereas SWING component creates a process
- Both AWT and SWING components creates a process
- Both AWT and SWING components creates a thread

you create an AWT component it creates a corresponding process on the operating system. As

compared to this SWING components are managed through threads and are known as Light Weight Components.

126. Which of the following exceptions belongs to a category of checked exception?

- NullPointerException
- **IOException** (Page 60)
- Array index out of bounds
- NumberFormatException

```
D:\examples\Exceptions> javac CException.java
CException.java:7: unreported exception java.io.FileNotFoundException;
must be caught or declared to be thrown
    FileReader fr= new FileReader("input.txt");
                        ^
CException.java:11: unreported exception java.io.IOException; must be
caught or declared to be thrown
    String s=br.readLine();
                        ^
```

127. In Java Graphics, while painting swing component which of the following function is invoked first?

- Paint()
- **paintComponent()** (Page 169)
- paintBorder()
- paintChildren()

Three methods are at the heart of painting a swing component like JPanel etc. For instance, paint() gets called when it's time to render -- then Swing further factors the paint() call into three separate methods, which are invoked in the following order:

```
protected void paintComponent(Graphics g) protected void
paintBorder(Graphics g) protected void
paintChildren(Graphics g)
```

127. If there no exception in the try block then the catch block ____ executes .

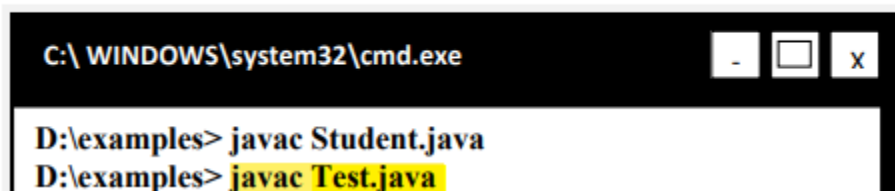
- Always
- Sometime
- **Never** (Page 56)
- None of the given

When the exception is raised from try block, only then catch block would execute.

128. To compile "Test.java" class, ____ command is used in java

- **javac Test.java** (Page 33)
- javac Tests
- java Test.java
- java Test

Compile both classes using **javac** command. Run Test class using **java** command.



```
C:\WINDOWS\system32\cmd.exe
D:\examples> javac Student.java
D:\examples> javac Test.java
```

129. Which of the following object is passed as an argument to paintComponent() method?

- Image object
- Jpanel object
- JFrame object
- **Graphics object** (Page 169)

```
protected void paintComponent(Graphics g) protected void
```

130. Which of the following syntax is used to create a server socket?

- ServerSocket ss = new ServerSocket("ServerName");
- **ServerSocket ss = new ServerSocket("ServerPort"); (Page 196)**
- ServerSocket ss = new ServerSocket("ServerName. ServerPort");
- ServerSocket ss = new ServerSocket("ServerPort. ServerName");

In order to create a server socket, you will need to specify port no eventually on which server will listen for client requests.

```
ServerSocket ss = new ServerSocket(serverPort) ;
```

131. To compare the values of two strings _____ must be used.

- = operator
- == operator
- **Equals() method** (Page 19)
- Compare() method

For comparing Strings never use == operator, use equals method of String class.

== operator compares addresses (shallow comparison) while equals compares values (deep comparison)

132. JPanel and Applet use _____ as their default layout.

- **Flow layout** (Page 100+Google)
- Border layout
- grid layout
- Gridbag layout

```
JPanel myPanel = new JPanel ( new FlowLayout( ) );
```

FlowLayout

For a **Panel** (including an **Applet**), the **default layout** is FlowLayout ; for a Window this is

133. INSERT, UPDATE, DELETE are _____ statements.

- DDL

- **DML** (Page 137)
- DCL
- None of given

we'll learn how to execute **DML** (insert, update, delete) statements as well some useful methods

134. A database that is created in MS Access 2003 will be saved with ____ extension.

- .java
- .class
- .doc
- **.mdb**

(Page 131+Google)

Press Add... button and choose **Microsoft Access Driver (*.mdb)** from Create New Data

Microsoft Access versions from **Access 1.0** (1992) through **Access 2003**, used the **.mdb** extension for all **database** files.

135. Which of the following exceptions can be caught in a throw clause?

- Null pointer exception
- Index out of bounds exception
- Division by zero exception
- **IOException**

(Page 56+60)

Checked Exceptions

- Must be caught or declared in a throws clause

```
D:\examples\Exceptions> javac CException.java
```

```
CException.java:7: unreported exception java.io.FileNotFoundException;
must be caught or declared to be thrown
```

```
    FileReader fr= new FileReader("input.txt");
```

```
        ^
```

```
CException.java:11: unreported exception java.io.IOException; must be
caught or declared to be thrown
```

```
    String s=br.readLine();
```

```
        ^
```

136. Which of the following function will be used to register event handler with event generator, where event generator is button?

- addAction()
- **addActionListner()**
- addListner()
- registerListner()

(Page 107)

11.3.3 Step 3: Registering Handler with Generator

- The event generator is told about the object which can handle its events
- Event Generators have a method
 - `addXXXListener(_ reference to the object of Handler class_)`
- For example, if `b1` is `JButton` then
 - `b1.addActionListener(this);` // if listener and generator are same class

137. In java if a super class method is protected then overriding method_____

- Must be protected
- Must be public
- Must be private
- **Maybe either protected or public (Google)**

Yes, the **protected method of a superclass** can be **overridden** by a subclass. **If the superclass method is protected, the subclass overridden method can have protected or public (but not default or private)** which means the subclass **overridden method** can not

138. Which of the following name is used by the system to recognize the underlying data source?

- DNS
- **DSN**
- JDBC
- ODBC

(Page 130)

After creating database, you have to setup a system **Data Source Name (DSN)**. **DSN is a name through which your system recognizes the underlying data source.**

139. Which of the following statements is true regarding `paintComponent()` method?

- It tells any component contained by this component to paint themselves.
- It tells the component to paint its border.
- **It first paints the background and then performs custom painting.**
- It first performs the custom painting and then paint the background.

(Page 170)

18.1.2.1 `paintComponent()`

- It is a main method for painting
- By default, it first paints the background
- After that, it performs custom painting (drawing circle, rectangles etc.)

140. If a class implements an interface, then _____ .

- An interface must provide implementation of all methods
- A class may or may not provide implementation of all methods of interface.
- **A class must provide implementation of all methods of interface.**

(Page 85)

- Class will compile successfully if class do not implement methods of interface.

Classes *implement* interfaces. Implementing an interface is like *signing a contract*. A class that implements an interface will have to provide the definition of all the methods that are present inside an interface. If the class does not provide definitions of all

141. When there is just a onetime use of a particular object of a java class, we use _____

- Named object
- **Anonymous object** (Page 127)
- Either named object or anonymous object
- Either named object or anonymous object
- neither named object or anonymous object

We generally use anonymous object when there is just a onetime use of a particular object but

142. Which of the following statements object is used to execute using same query multiple times by only changing parameters?

- Statement
- Callable statement
- **Prepared statement** (Page 140)
- Both callable and prepared statements

Prepared Statements

- What if we want to execute same query multiple times by only changing parameters.

143. The “MouseDowned” and “mouseMoved” methods are defined in _____ interface?

- MouseListner
- ItemListner
- **MouseMotionListener** (Page 113)
- ActionListener

```
public interface MouseMotionListener {  
    public void mouseDragged (MouseEvent me);  
    public void mouseMoved (MouseEvent me);  
}
```

144. == operator compares _____ of string whereas equals() method compares _____ of strings

- Values. Addresses
- **Addresses. Values** (Page 19)
- Size. Addresses
- Addresses. Size

== operator compares addresses (shallow comparison) while equals compares values (deep comparison)

145. In java, Overloading is ____ whereas overriding is ____

- Run time binding, compile time binding
- Late binding, compile time binding
- **Compile time binding, run time binding** (Google)
- Run time binding, late time binding

Elaboration: Method **overloading** is a **static/compile-time binding** but not **polymorphism**. 31-Aug-2019

Method overriding is an example of **runtime polymorphism**. In **method overriding**, a subclass overrides a **method** with the same signature as that of in its superclass. ...

Method Overloading	Method Overriding
3. Checked at compile time.	3. Checked at run time.

146. Teacher.java class wants to inherit from Employee.java class, _____ keyword should be used in blank space in given

```
class Teacher _____Employee{  
    public static void main (String args[] {  
    }}
```

- Inherit
- Implement
- **Extends**
- Override

(Page 39)

```
class Teacher extends Employee{
```

147. Which of the following method is used to execute SELECT SQL Statement?

- executeUpdate(sql);
- ExecuteUpdate(sql);
- **executeQuery(sql);** (Page 134)
- ExecuteQuery(sql);

executeQuery(sql) method

Used for SQL SELECT queries.

148. The following code creates and starts a timer that fires an action event once per ____

```
Timer t = new Timer (1000, this);
```

```
T.start ();
```

- **Second** (Google)
- Minute
- Hour
- Day

on it, and starting the timer using the start method. For example, the following code creates and starts a timer that fires an action event once per second (as specified by the first argument to the Timer constructor). The second argument to the Timer constructor specifies a listener to receive the timer's action events.

```
int delay = 1000; //milliseconds
```

149. Which statement from the following statements is true about a java Anonymous Inner Class?

- It is difficult to understand
- It has no name
- It is much shorter
- **All of the given options** (Page 127)

13.4 Anonymous Inner Classes

- has no name
- same as inner class in capabilities
- much shorter
- Difficult to understand

150. Which of the following feature is available in java?

- Pointers
- Operators overloading
- Global variable
- **Primitive data types** (page 5+16+ Google)

The core language is simpler than C++ -- no operator overloading, no pointers, no multiple inheritance

class. In java there are no global variables or functions. The various parts of this main

Java primitive data type

Java uses the following set of primitive data types: Byte A "byte" represents an integer that

151. How many ports are available for TCP socket?

- 64
- **64k** (Page 193)
- 128
- 128k

There are 64k ports available for TCP sockets

152. How many ports are available for TCP socket?

- 64
- **64k** (Page 193)
- 128
- 128k

There are 64k ports available for TCP sockets and 64k ports available for UDP, so at

153. Which of the following is a DDL statement?

- Select
- Delete
- **Create** (Page 137)
- Update

Also supports DDL (Data Definition Language) statements CREATE TABLE, DROP TABLE, and ALTER TABLE etc.

154. Which of the following syntax is used to get ResultSetMetaData object?

- ResultSetMetaData md = con.getMetaData(); //where con is Connection object
- **ResultSetMetaData md = rs.getMetaData(); //where rs is ResultSet object (Page 158)**
- ResultSetMetaData md = st.getMetaData(); //where st is statement object
- ResultSet md = rs.getMetaData(); //where rs is ResultSetMetaData object

63. **ResultSet rs = pstmt.executeQuery();**

64. // get ResultSetMetaData object from rs

65. **ResultSetMetaData rsmd = rs.getMetaData();**

155. _____ is correct syntax to get component area of “myFrame” top level container.

- Container c = myFrame.getComponentPane();
- Container c = myFrame.getContentPane();
- **Container c = myFrame.getContentPane();** (Page 92)
- Container c = myFrame->getComponentArea();

//Step 3: Get the component area of top-level container

Container c = myFrame.getContentPane();

156. The keyword “this” is used to _____

- Invoke constructor of the another class
- **Invoke alternate constructor of the same class** (Page 38+Google)
- Invoke constructor of super class from subclass
- Invoke constructor of subclass from super class

```
public Employee(){
// calling parameterized constructor of same (Employee)
// class by using keyword this
```

In Java another **constructor of the same class** can be called from a **constructor** via **this()**

157. Which of the following given Listener interface is needed to handle the “MouseEvent”?

- **MouseListener** (Page 105)
- MouseMotionListner
- MouseActionListner
- MouseFocusListner

o To handle “MouseEvent” a class needs to implement “MouseListener” and so on

158. Which of the following keyword/operator is used for inheritance in java?

- Implements
- **Extends** (Page 38)
- ;(colon)
- Inherit

• Keyword *extends* is used instead of “:” for inheritance.

159. Which of the given Listener interfaces have adapter class(s)?

- ActionListener
- **MouseMotionListener** (Page 119)
- AdjustmentListener
- ItemLiatenr

MouseMotionListener	MouseMotionAdapter	addMouseMotionListener
---------------------	--------------------	------------------------

160. Which of the following command is used to invoke an applet from command line interpreter?

- applet htmlfile
- **appletviewer htmlfile** (Page 183)
- appletviewer javafile
- viewer htmlfile

The applet viewer is invoked from the command line by the command

appletviewer htmlfile

161. if there is a class “student” .then the java file must be saved with _____ name.

- Student_File.java
- **student.java** (Page 30)
- Any name
- Student.java

```
// File Student.java  
public class Student {
```

162. Which one of the following methods is not a method of MouseListener interface?

- Pressed
- Clicked
- **Moved** (Page 113+114)
- Released

```
public interface MouseListener {  
    public void mousePressed (MouseEvent me);  
    public void mouseClicked (MouseEvent me);  
    public void mouseReleased (MouseEvent me);
```

163. Which of the given Listener interface is needed to handle the “KeyEvent”?

- Mouse key listener
- Motion key listener
- **KeyListener** (Page 105)
- Key Action listener

o To handle “KeyEvent” a class needs to implement “KeyListener”

164. which of the following statement is used to attach an input stream to console?

- **FileReader fr = new FileReader(“input.txt”);** (Page 69)
- FileReader fr = new FileReader(“FileDescriptor.in”);
- FileReader fr = new FileReader(“FileDescriptor”);
- FileReader fr = new FileReader(console);

```
FileReader fr = new FileReader(“input.txt”);
```

165. which of the following Listener interface is used to handle the “ActionEvent”?

- Mouse Action Listener
- KeyactionListener
- **Action Listener** (Page 105)
- Motion Listener

o To handle “ActionEvent” a class needs to implement “ActionListener”

166. A scrollable and updateable resultSet object has the following capabilities except_____

- Insert new row
- **Insert new columns** (Page 144)
- Delete rows
- Update rows

Another advantage is, rows can be inserted, updated or deleted by using updatable ResultSet object.

167. Byte codes are put in memory by_____

- Editor
- Compiler
- **Class loader** (Page 12)
- Bytecode verifier

In phase 3, the program must first be placed in memory before it can be executed. This is done by the *class loader*, which takes the .class file (or files) containing the byte codes and transfers it to memory. The .class file can be loaded from a disk on your system or

168. In the context of java Graphics; most of time, painting is done automatically.

- **True** (Page 165)
- False

Java components are also able to paint themselves. Most of time, painting is done automatically. However sometimes you need to do drawing by yourself.

169. DML stands for?

- **Data Manipulation Language** (Google)
- Data Management Language
- Direct manipulation language
- Direct Management Language

170. Which of the given method is/are declared for “MouseListener” interface?

- Mouse Moved
- Mouse Dragged
- **MousePressed** (Page 113)
- Mouse Key Pressed

```
public interface MouseListener {  
    public void mousePressed (MouseEvent me);
```

171. CmdArgs java class is compiled. If the “java CmdArgs CS506” run in cmd, then what will be output of given code:

```
Public class CmdArgs{  
  
    Public static void main(String[] args){  
  
        System.out.println(“First argument” + args[0])  
  
    }  
}
```

- **CS506 (Page 21)**
- Syntax error
- Do not show any output
- Args[0]

```
public static void main(String[] args){ //main method  
System.out.println(“First argument ” + args[0]);  
System.out.println(“Second argument ” +args[1]);  
//end main  
//End class.
```

172. Which of the following driver type(s) has better performance than other?

- Type 1:JDBC-ODBC Bridge
- Type 2: Native – AP/partly Java driver
- Type 3: Net – protocol /all – Java driver
- **Type 4: Native – protocol /all – java driver (Page 163)**

Type - 4: Native - protocol / all - java driver

- Converts JDBC calls into the vendor-specific DBMS protocol so that client application can communicate directly with the database server
- Completely implemented in Java to achieve platform independence and eliminate deployment issues.
- **Performance is typically very good**

173. Which of the following method is a correct registration method for Focus Listener interface?

- **addFocusListener (Page 119)**
- addFocusedListener
- regFocusListener
- regFocusedListener

FocusListener

FocusAdapter

addFocusListener

174. _____ in a collection class creates a collection with no elements.

- **Constructor** (Page 45)
- Class
- Function
- Array

• **Constructor**
o creates a collection with no elements.

175. CREATE, ALTER, DROP are _____ SQL statements.

- DML
- **DDL** (Page 137)
- DCL
- None of the given

• Also supports DDL (Data Definition Language) statements CREATE TABLE, DROP TABLE, and ALTER TABLE etc.

176. Which of the following classes is capable to instantiate?

- Abstract class
- **Concrete class** (Page 83)
- Interface class
- None of the given

If subclass overrides all abstract methods of the superclass, then it becomes a concrete (a class whose object can be instantiate) class otherwise we have to declare it as abstract or we cannot

177. Which of the following streams is a filter stream?

- FileWriter
- FileReader
- **BufferedReader** (Page 69)
- All of the given

FilterStreams sit on top of a node stream or chain with other filter stream and provide some additional functionality e.g. compression, security etc. FilterStreams take other stream as their input.

```
BufferedReader bt = new BufferedReader(fr);
```

BufferedReader makes the IO efficient (enhances the functionality) by buffering the input before delivering. And as you can see that BufferedReader is sitting on top of a node stream which is FileReader.

178. Following are the code statements used in java event handling. Identify the code statement that is used for registering event handler with event generator.

- b1= new JButton("OK")
- **b1.addActionListener(this); (Page 108)**
- frame= new JFram()
- frame.setSize(150,150)

/* Registering event handler with event generator. Since event handler is in same object that contains button, we have used this to pass the reference.(step 3 of the process) */

12. hello.addActionListener(this);

179. An applet is typically embedded in a Web page and can be run from a browser.

- **True (Page 181)**
- False

• **A applet is typically embedded in a Web page and can be run from a browser**

180. Which of the following functions is declared in MouseMotionListener interface?

- public void mousePressed(MouseEvent me);
- **public void mouseDragged(MouseEvent me); (Page 113)**
- public void mouseClicked(MouseEvent me);
- public void mouseEntered(MouseEvent me);

A **MouseMotionListener interface** is defined in JDK as follows:

```
public interface MouseMotionListener {  
    public void mouseDragged (MouseEvent me);  
    public void mouseMoved (MouseEvent me);  
}
```

181. In java , Serializable interfaces can be found under _____ package.

- **java.io (Page 203)**
- java.net
- java.sql
- java.util

22.2.1 Serializable Interface

- By implementing this interface a class declares that it is willing to be read/written by automatic serialization machinery
- Found in java.io package

182. All the exceptions and errors in Java are inherited from _____ class.

- Exception
- Error
- **Throwable** (Page 55)
- IOException

All exceptions in java are inherited from a class know as *Throwable*.

183. In the following methods of Graphics object is used to draw rectangle?

- DrawRect(10,10,20,20)
- **drawRect(10,10,20,20)** (Page 174)
- DrawRectangle(10,10,20,20)
- DrawRectangle(10,10,20,20)

o In the last example code, we draw a rectangle by passing hard-coded values like 20

`g.drawRect(20,20,20,20);`

o Now, we'll use variables so that change in a variable value causes to display a rectangle at a new location

`g.drawRect(mx,my,20,20);`

184. How many methods are there in the Serializable Interface?

- **Zero** (Page 203)
- One
- Two
- Three

22.2.1 Serializable Interface

- By implementing this interface a class declares that it is willing to be read/written by automatic serialization machinery
- Found in java.io package
- Tagging interface - has no methods and serves only to identify the semantics of being serializable

185. In the context of Socket Programming, the client does NOT know about the hostname of the machine on which the server is running.

- True
- **False** (Page 194)

- On the client side: The client knows the hostname of the machine on which the server is running and the port number to which the server is connected.

186. The given line of code will result in _____ `System.out.println(5+9);`

- 59
- 5+9
- **14**
- Syntax error

(Page 19)

`System.out.println(i+j);` will print 9 on the console because both i and j are of type int.

187. Which of the following methods takes the place of constructor in an Applet?

- run()
- main()
- **init()**
- start()

(Page 184)

20.5.1 init()

- Is called only once.
- The purpose of init() is to *initialize* the applet each time it's loaded (or reloaded).
- You can think of it as a constructor

188. Which of the following is a correct listener statements for “mouseclick” event in “MouseListener” interface?

- Public void mouseClicked (MouseEvent me)
- Public void MouseClicked (MouseEvent me)
- **public void mouseClicked (MouseEvent me)**
- Public void Mouseclicked (MouseEvent me)

(Page 114)

`public void mouseClicked (MouseEvent me);`

189. Which of the following statement object is used to execute simple SQL statement?

- **Statement**
- PreparedStatement
- CallableStatement
- None of given

(Page 140)

15.2.1 Statement

- The Statement objects are used for executing simple SQL statements.

190. For each class contained in java source file, compiler generates _____ class file/s.

- **One**

(Page 8)

- Two
- Three
- Four

The compiler generates one class file for each class contained in java source file.

191. Which of the following syntaxes is used to get DataBaseMetaData object?

- DataBaseMetaData md = rs.getMetaData()
// where rs is ResultSet object
- DataBaseMetaData md = st.getMetaData();
// where st is statement object
- **DataBaseMetaData md = con.getMetaData(); (Page 160)**
// where con is Connection object
- DataBaseMetaData md = rsmd.getMetaData();
// where rsmd is ResultSetMetaData object

From a Connection object, a DatabaseMetaData object can be derived. The following code snippet demonstrates how to get DataBaseMetaData object.

```
Connection con = DriverManager.getConnection(url, usr, pwd);
DatabaseMetaData dbMetaData = con.getMeataData();
```

192. Which of the following is the correct syntax to make PersonInfo class into a Serializable class?

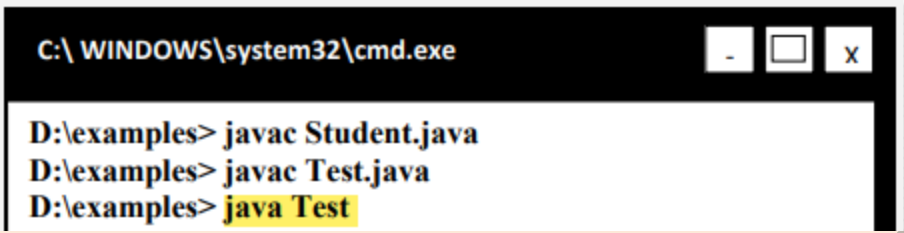
- Public class PersonInfo responds Serializable{/*class body*/}
- Public class PersonInfo extends Serializable{/*class body*/}
- Public class PersonInfo includes Serializable{/*class body*/}
- **Public class PersonInfo Implements Serializable{/*class body*/}**
(Page 204)

class PersonInfo implements Serializable{

193. Which command of the following commands is used to run “Java Test” java file’s program?

- **java Java Test (Page 33)**
- javac JavaTest.java
- javac JavaTest
- java JavaTest.java

Compile both classes using **javac** command. Run Test class using **java** command.



```
C:\WINDOWS\system32\cmd.exe

D:\examples> javac Student.java
D:\examples> javac Test.java
D:\examples> java Test
```

194. Java language has a little worse performance than C++ language, because_____.

- It is object oriented
- It uses built-in libraries
- It does not use pointers
- **It checks all errors, malicious and viruses** (Page 05)

- o Both, vs. unintentional errors and vs. malicious code such as viruses.
- o Java has slightly worse performance since it does all this checking. (Or put the other way, C can be faster since it doesn't check anything.)

195. Which of the following features is not available in Java?

- Data hiding
- Data encapsulation
- Single inheritance
- **Multiple inheritance** (Page 05)

The core language is simpler than C++ -- no operator overloading, no pointers, no multiple inheritance

196. If you want the timer to fire only the first time and then stop, invoke _____

- setOnce(true)
- setOnce(false)
- setRepeats(true)
- **setRepeats(false)** (Google)

If you want the timer to fire only the first time and then stop, invoke `setRepeats(false)` on the timer.

197. Let Suppose a column has index 5 in the ResultSet object. Which of the following statement is used to retrieve the column values?

- String name = rs.getInt(4)
- String name = rs.getInt(5)
- String name = rs.getString(4)
- **String name = rs.getString(5)** (Page 134)

```
String name = rs.getString("columnName"); //by using column name  
String name = rs.getString(1); // or by using column index }
```

198. In java , adapter classes have been defined for the following listener interfaces except _____ interface.

- FocusListener
- ComponentListener
- MouseMotionListener
- **ItemListener**

(Page 119)

ItemListener		addItemListener
--------------	--	-----------------

199. In order to include graphics in your Java program, it is mandatory to extend from _____ class.

- JLabel
- JFrame
- **JPanel**
- JButton

(Page 171)

Subclass JPanel

- class MyPanel *extends JPanel*
- Doing so MyPanel also becomes a JPanel due to inheritance

Override the paintComponent(Graphics g) method

- Inside method using graphics object, do whatever drawing you want to do

Install that JPanel inside a JFrame

200. HashMap takes key as a/an _____

- **Object**
- Array
- Primitive value
- Function

(Page 47+Google)

6.4 HashMap

Store elements in the form of *key- value* pair form. A key is associated with each object that is stored.

Answer to your question is yes, **objects** of custom classes can be **used** as a **key** in a **HashMap**. But in order to retrieve the value **object** back from the map without failure, there

201. Following are the code statements used in java event handling. Identify the code statement that is used for handling an event.

- Button = new JButton("Reset")
- button.addActionListener(this)
- container.setLayout(newFlowLayout());
- **public void actionPerformed(ActionEvent e)** (Page 106)

```
public void actionPerformed(ActionEvent e);
```

202. Which of the following code statement is used to define a connection URL?

- Class.forName("sun.jdbc.odbc.jdbcOdbcDriver)
- Connection abc = DriverManager.getConnection(conURL)
- **String asd = "jdbc:odbc:DSName";** (Page 133)
- Statement xyz = abc.createStatement()

and named it personDSN. So the URL of the database will be
String conURL = "jdbc:odbc:personDSN";

203. ____ is correct syntax to create a general purpose container "myPanel" having flow layout

- JPanel myPanel = new JPanel (FlowLayout());
- **JPanel myPanel = new JPanel (new FlowLayout());** (Page 100)
- JPanel myPanel = JPanel (new FlowLayout());
- JPanel myPanel = JPanel (FlowLayout());

It is **general purpose container** (can't exist alone, it has to be in some toplevel container) in which we can put in different components (JButton , JtextField etc even other JPanels) JPanel has its own layout that can be set while creating JPanel instance

```
JPanel myPanel = new JPanel ( new FlowLayout( ) );
```

204. A variable declared as static in a class is a/an _____.

- Instance variable
- **Class variable** (Google)
- Canst variable
- Global variable

Fields that have the **static** modifier in their **declaration** are **called static fields** or **class variables**. They are associated with the **class**, rather than with any object. Every **instance**

205. Which of the following method is used to release the JDBC and Database resources in ResultSet?

- Previous()

- getters
- **close()** (Page 144)
- next()

close()

Used to release the JDBC and database resources

206. The _____ method returns true or false depending upon whether the next row is available (exist) or not in ResultSet.

- getters
- **next()** (Page 144)
- close()
- close()

The next() method returns true or false depending upon whether the next row is available (exist) or not.

207. Which of the following is the correct way to access writeObject() function using “out” ObjectOutputStream class:

- out->writeObject();
- **out.writeObject();** (Page 204)
- out->(writeObject());
- out<-writeObject();

```
PersonInfo p = new PersonInfo( );
ObejctOutputStream out;
// writing PersonInfo's object p
out.writeObject(p);
```

208. Which of the following method/s is a ResultSetMetaData method?

- **All of the given options** (Page 157)
- getColumnCount()
- getColumnName(int)
- getColumnDisplaySize(int)

17.1.2 Useful ResultSetMetaData methods

17.1.2.1 getColumnCount ()

- Returns the number of columns in the result set

17.1.2.2 getColumnDisplaySize (int)

- Returns the maximum width of the specified column in characters

17.1.2.3 getColumnName(int) / getColumnLabel (int)

209. In ResultSetMetaData methods, _____ method returns the number of columns in the result set:

- getColumnDisplaySize(int)
- **getColumnCount()** (Page 157)
- getColumnType(int)
- getColumnLabel(int)

17.1.2.1 getColumnCount ()

- Returns the number of columns in the result set

210. By implementing this interface, a class declares that it is willing to be _____ by automatic serialization machinery:

- Checked
- Decode
- **Read** (Page 203)
- Destroyed

1 Serializable Interface

- By implementing this interface a class declares that it is willing to be read/written by automatic serialization machinery

211. Following are the code statements used in java event handling. Identify the code statement that is used for generating an event.

- b1.addActionListener(this)
- **b1 = new JButton("OK")** (Page 105)
- frame = new JFrame
- frame.setSize(150 , 150)

```
JButton b1 = new JButton("Hello");
```

Now b1 can generate events

212. Java defines _____ for the listener interfaces having more than one event handling methods:

- **Abstract classes** (Page 118)
- Concrete classes
- Wrapper classes
- Adapter classes

For listener interfaces containing more than one event handling methods, jdk defines adapter classes. Examples are

213. Exceptions must be handled while handling files otherwise it may lead to _____:

- Logical error
- Syntax error
- No error
- **Run-time error** (Page 54)

Runtime Errors

- Occur because the program tries to perform an operation that is impossible to complete.
- Cause exceptions and may be handled at runtime (while you are running the program)

What is an Exception?

An exception is an event that usually signals an erroneous situation at run time

214. In ResultSetMetaData methods, _____ method returns the suggested column label for printouts.

- getColumnNames()
- **getColumnLabel()** (Page 157)
- getColumnCount ()
- getColumnType (int)

17.1.2.3 getColumnNames(int) / getColumnLabel (int)

- The getColumnNames() method returns the database name of the column
- The getColumnLabel() method returns the suggested column label for printouts

215. Which of the following statement is true about abstract class?

- An abstract does must have all methods developed as abstract methods.
- A class must have atleast one abstract method to be an abstract class.
- **A class without any abstract method can be declared as abstract class. (Page 82)**
- An instance of abstract can be created.

Any class with an abstract method (a method has no implementation similar to pure virtual function in C++) must be declared abstract, yet you can declare a class *abstract* that has no abstract method.

216. Array List can store objects of _____?
- **Same types only (Not Sure)**
 - Different types only
 - Both same and different types
 - Can't store objects

Arrays are classified as Homogeneous Data Structures because they **store** elements of the **same type**. They **can store** numbers, strings,

217. In polymorphism _____ are overridden.
- Variables
 - **Methods (Not Sure)**
 - Data types
 - Classes

Overriding is a form of **polymorphism** that is used in Java to dynamically bind the **method** from the subclass in response to a **method call from a subclass** object referenced by superclass type. **Method overriding** is bonded using dynamic binding in Java. 14-Apr-2021

218. _____ is required in order to get an object from collection.
- Up-casting
 - **Down-casting (Not Sure)**
 - Implicit casting
 - None of the given options

Down-casting

- converting a bigger data type into smaller one
- Explicit - need to mention
- Possible loss of information
- Examples of
 - o Primitives

```
double a = 7.65;  
int b = (int) a;
```

The recreated object is of type "Object" therefore Down-casting is required to convert it into actual type.

219. A collection can store ____

- **Homogenous objects** (Moaaz File Not Sure)
- Heterogeneous objects
- Object as well as primitive values
- At most 100 objects

220. ArrayList is an example of _____ collection type.

- **Sequence Based** (Not Sure)
- Set based
- Hashmap based
- None of the given

delete operation. We used forloop for iterating the whole ArrayList. By using the size method of ArrayList, we can control our loop as ArrayList indexes range starts from 0 to one less than size.