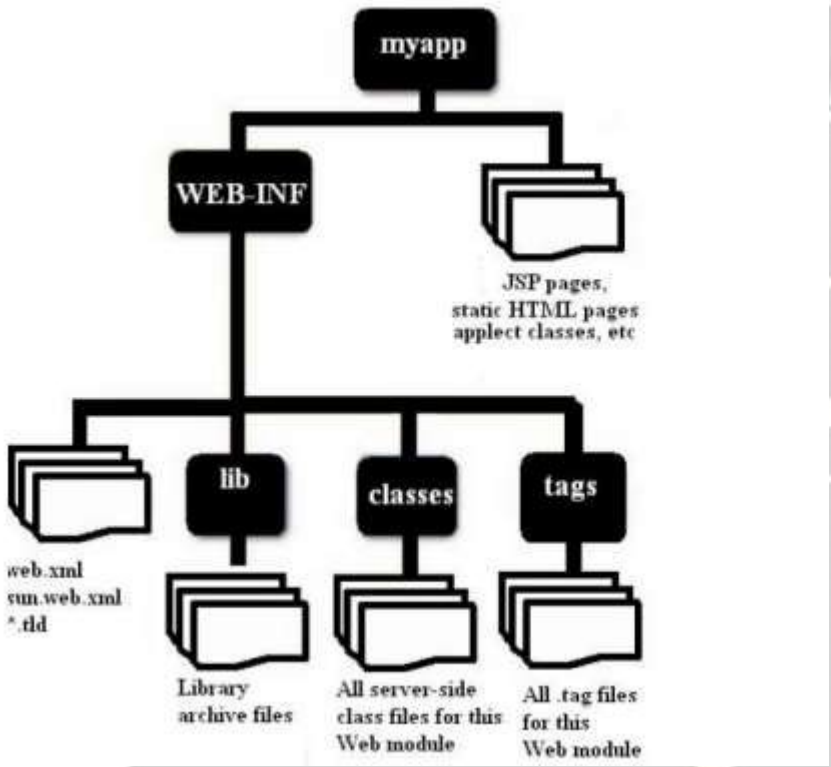
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1. **Stages of servlet life cycle:**
   a) **Initialize**
   b) **Destroy**
   c) **Service**
2. **Tomcat Standard directory structure**



3. **Draw backs of page-centric Approach:**
   The page centric approach has a lot of drawbacks such as the code becomes a mixture of presentation, business and data access logic. The maintenance and up-gradation of the application becomes nightmare (difficult).Scaling of such kind of application is also difficult and lots of code is get duplicated.
4. **Html comments syntax**
   <!--comments-->
5. **JSP comments syntax**
   <%--comment text--%>
6. **Response redirection forms:**
   1. Sending a standard redirect
   2. Sending a redirect to an error page

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7. **Primitive data types for java**

boolean, byte	**1 byte**
char, short	**2 bytes**
int, float	**4 bytes**
long, double	**8 bytes**

8. **Exception handling in java**
   Java handles exceptions via 5 keywords. **Try, catch, finally, throw and throws.**
9. **Stream classification based on functionality**
   1. **Node stream:**
   are those which connect directly with data source/sink and provides basic functionality to read/write data from source/sink .

   FileReader fr = new FileReader("input");

   2. **Filter stream:**
   sit on top of node stream or chain with other filter stream and provide some additional functionality e.g compression, security etc. Filter streams take other stream as input.

   BufferedReader bt = new BufferReader("fr");
10. **Some well-known ports:**
    FTP works on port 21
    HTTP works on port 80
    TELNET works on port 23
11. **Socket:**
    A socket is bi-directional communication channel between hosts.
12. **Multithreading:**
    Multithreading is the ability to do **multiple things at once** with in same application.
13. **Thread:**
    A thread sometimes called an execution context or a lightweight process is a single sequential flow of control within a program.
14. **Creating Thread in java:**
    1. Using interface
    2. Using inheritance
15. **Thread priority scheduling:**
    The java runtime environment supports a very simple, deterministic scheduling algorithm called fixed-priority scheduling. This algorithm schedules threads on the basis of their priority relative to other Runnable threads.

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16. URL rewriting

The following URLs have been rewritten.
Original: http://server:port/servlet/rewrite
Extra path information: http://server:port/servlet/rewrite/123
Added parameters: http://server:port/servlet/rewrite?id=123
Custom change: http://server:port/servlet/rewrite;id123

17. Parts of Http response:

Result code
Header Fields
Body

18. Name of Arithmetic Operator?

Answer:

Operator	Name	Example	Description
+	Addition	X+Y	Adds together two values
-	Subtraction	X-Y	Subtracts one value from another
*	Multiply	X*Y	Multiple two values
/	Division	X/Y	Divide one value by other
%	Module	X%Y	Return the division remainder
--	Increment	++X	Increase the value of a variably by 1
++	Decrement	--X	Decrease the value of a variably by 1

Logical Operator:

Operator	Name
&&	Logical and
||	Logical or
!	Logical not

19. Alternative of inheritance in Java?

Answer:

- Delegation can be an **alternative** to **inheritance**.
- Delegation means that you use an object of another class as an instance variable, and forward messages to the instance.

20. Names of Tomcat directory?

Answer:

bin – startup, shutdown and other scripts and executables
common- common classes that Catalina and web applications can use
conf – XML files and related DTDs to configure Tomcat
logs – Catalina and application logs
server – classes used only by Catalina

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shared classes shared by all web applications



webapps – directory containing the web applications

21. Syntax of request process?

Answer:

```
<html>
<body>
<form method="POST" ACTION = "firstservlet"
NAME="myForm">
<h2> Enter your name</h2>
<INPUT TYPE="text" name="name"/>
<br/>
<h2> Salary</h2>
<INPUT TYPE="text" name="salary"/>
<BR/><BR/>
<INPUT type="submit" value="Submit"/>
</form>
</body>
</html>
```

22. Description of 200, 401, 403, 404, and 503 these status code?

Answer:

200: Means everything is fine.

401: Indicates that the request requires HTTP authentication

403: Indicates that access to the requested resource has been denied.

404: Indicates that the requested resource is not available.

503: Indicates that the HTTP server is temporarily overloaded and unable to handle the request.

100: Continue with partial request.

300: Document requested can be found several places; they'll be listed in the returned document.

23. Types of inner parts of servlets?

Answer:

Java Web Server and Servlet Container

24. All steps of Interface of thread worker class?

Answer:

Step 1 - Implement the Runnable Interface

```
class Worker implements Runnable
```

Step 2 - Provide an Implementation of run() method

```
public void run( ){
// write thread behavior
// code that will be executed by the thread
```

Step 3 - Instantiate Thread class object by passing Runnable object in the constructor

```
Worker w = new Worker ("first");
Thread t = new Thread (w);
```

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Step 4 - Start thread by calling start() method

```
t.start();
```

25. Names of Servlet life cycle stages?

Answer:

A servlet passes through the following stages in its life.

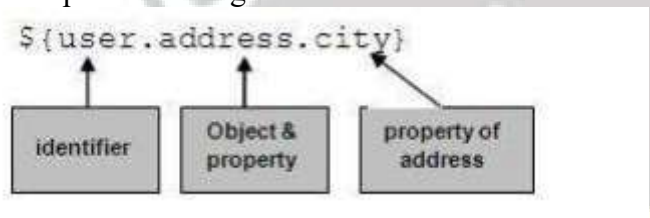
- Initialize
- Service
- Destroy

26. EL Operator?

Answer:

Dot (.) operator

Assume that JavaBean `PersonInfo` has *name* property and its object `person` is stored in some scope. Then to access the *name* property of `person` object, we'll write the following expression using EL:



Bracket ([ ]) operator

This operator can be applied to arrays & collections implementing *List* interface e.g. `ArrayList` etc.

- *Index* of the element appears inside brackets
- For example, `${ personList[2] }` returns the *3rd element* stored in it

27. Difference between applet and servlet table are given just mention?

Answer:

Sr. No.	Key	Applets	Servlets
1	Execution	Applets are executed on client-side i.e applet runs within a Web browser on the client machine.	Servlets on other hand executed on the server-side i.e servlet runs on the web Page on server.
2	Parent packages	Parent package of Applet includes java.applet.* and java.awt.*	Parent package of Servlet includes javax.servlet.* and java.servlet.http.*
3	Methods	Important methods of applet includes init(), stop(), paint(), start(), destroy().	Lifecycle methods of servlet are init( ), service( ), and destroy( ).
4	User interface	For the execution of the applet, a user interface is required such as AWT or swing.	No such interface is required for the execution of servlet.
5	Required Bandwidth	The applet requires user interface on the client machine for execution so it requires more bandwidth.	On the other hand, Servlets are executed on the servers and hence require less bandwidth.
6	Secure	Applets are more prone to risk as execution is on the client machine.	Servlets are more secure as execution is under server security.

28. HTTP response and HTTP request?

Answer:

HTTP response:

An HTTP response is made by a server to a client. The aim of the response is to provide the client with the resource it requested, or inform the client that the action it requested has been carried out; or else to inform the client that an error occurred in processing its request

HTTP request:

An HTTP request is an action to be performed on a resource identified by a given Request-URL. Request methods are case-sensitive, and should always be noted in upper case. There are various HTTP request methods, but each one is assigned a specific purpose.

29. You have to write the syntax of EL?

Answer: not sure

Syntax of EL

- Expressions & identifiers
- Arithmetic, logical & relational operators
- Automatic type conversion
- Access to beans, arrays, lists & maps
- Access to set of implicit objects

30. You have to write 6 EL Operator?

Answer:

Type	Operator
Arithmetic	+ - * / (div) % (mod)
Grouping	()
Logical	&&(and) ||(or) !(not)
Relational	== (eq) != (ne) < (lt) > (gt) <= (le) >= (ge)
Empty	The empty operator is a prefix operation used to determine if a value is null or empty. It returns a Boolean value.
Conditional	?:

31. Difference between Servlet and JSP?

Answer:

Servlets are faster as compared to **JSP**, as they have a short response time. **JSP** is slower than **Servlets**, as the first step **in the JSP** lifecycle is the conversion

of **JSP** to Java code and then the compilation of the code. **Servlets** are Java-based codes. **JSP** are HTML-based codes

32. **Mention at least five parts of HTTP request?**

Answer:

HTTP defines a set of **request methods** to indicate the desired action to be performed for a given resource. Although they can also be nouns, these request methods are sometimes referred to as *HTTP verbs*. Each of them implements a different semantic, but some common features are shared by a group of them: e.g. a request method can be safe, idempotent, or cacheable.

Get:

The Get method requests a representation of the specified resource. Requests using Get should only retrieve data.

Head:

The Head method asks for a response identical to that of a Get request, but without the response body.

Post:

The Post method is used to submit an entity to the specified resource, often causing a change in state or side effects on the server.

Put:

The Put method replaces all current representations of the target resource with the request payload.

Delete:

The Delete method deletes the specified resource.

Connect:

The Connect method establishes a tunnel to the server identified by the target resource.

Option:

The Option method is used to describe the communication options for the target resource.

Trace:

The Trace method performs a message loop-back test along the path to the target resource.

Patch:

The Patch method is used to apply partial modifications to a resource.

33. **Create a class with respect to JAVA Bean Class?**

Answer:

```
// Java program to illustrate the
// structure of JavaBean class
public class TestBean {
```

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```
private String name;
public void setName(String name)
   {
      this.name = name;
   }
public String getName()
   {
      return name;
   }
}
```

34. **MCV Model-1 architecture diagram was given. Required to write the names of components with respect to given number?**

Answer:

This architecture introduces a controller. This controller can be implemented using JSP or servlet. Introducing a controller gives the following advantages:
It centralizes the logic for dispatching requests to the next view based on:

- The Request URL
- Input Parameters
- Application state

Request

Response

Redirect

Thread.MAX_PRIORITY (typically 10)
Thread.NORM_PRIORITY (typically 5)
Thread.MIN_PRIORITY (typically 1)

Parts of HTTP response

- Result Code
- Header Fields
- Body

JSP Implicit Object(S)

- Session
- Application
- Config

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The session handling capabilities are the same for a JSP as well as Servlets.

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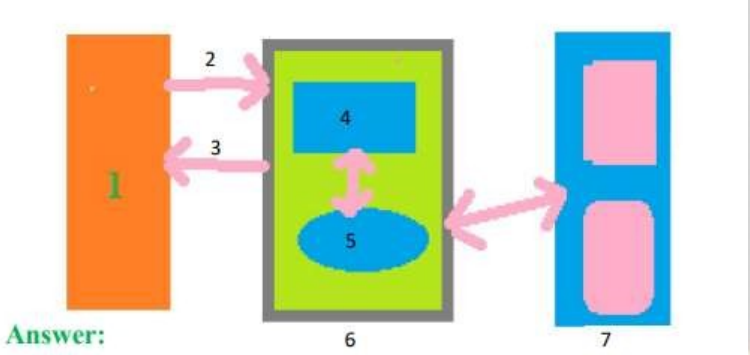
- Servlet
- JSP
- JSF

jspInit() and jspDestroy() can be overridden and we cannot override _jspService().

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35. **Write a code for an HTML page which contains two text fields for taking name and address as input and a submit button when submit button is clicked a Java Servlet should serve the user.**
Required Information given below:
Form NameInfoForm
Local Host Http:// localhost8080
Form Method Get
URL Pattern /my form/
Servlet Name For Processing Servlet
Answer:

36. **MVC-Model-1 diagram is given you are required to write the names of component with respect to the number given in Diagram.**



Answer:

Number	Names
1	Browser
2	Request
3	Response
4	JSP Pages
5	Java Bean
6	Servlet Container
7	EIS

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37. **You are required to write a code for a java servlet to check wither it is new user or not by using http session object.**
If user visiting first time, Print "Welcome Back" in other No need to write complete code of servlet Just write the cod for process request method.
Answer:

38. **In the context of tomcat server installation you are required to complete the able?**

Variable	Root Directory
JAVA-HOME	
CATALINA-HOME	
CLASS PATH	

Answer:

Variable	Root Directory
JAVA-HOME	JDK
CATALINA-HOME	C:\jakarta-tomcat-5.5.9
CLASS PATH	"src/" folder ;-

39. **Java does not allow the multiple inheritances. What are the alternatives of multiple inheritance in Java?**
Answer:
Repated:

40. **Rewrite the URL by using Query String technique of URL Rewrite**
Original URL:- http://myserver.comPorts/servlet/register
Updated URL:-

Attribute	Values
Name	Name
Address	Pakistan
Contact	12345

Answer:
Original URL
`http://server:port/servletex /register`
- After adding parameters

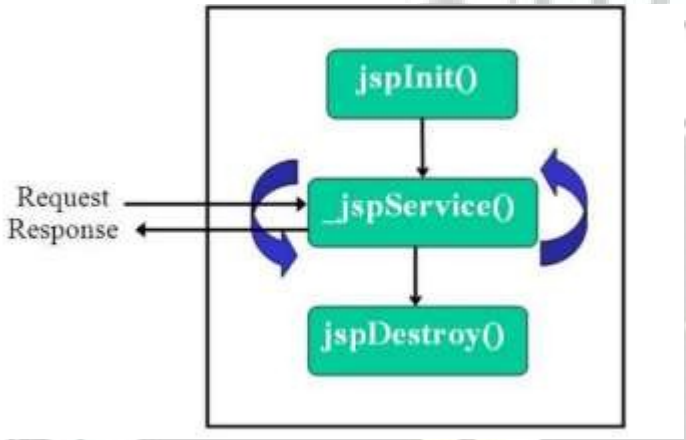
`http://server:port/servletex/register ?name=ali`
If you want to add more than one parameter, all subsequent parameters are separated by **&** sign.
For example
- Adding two parameters -

`http://server:port/servletex/register ?name=ali&address=gulberg`

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41. **Convert the following output tag of JSTL tag Library into Equitant Servlet Code**
<C:Out.value = "${param.id}$" "default = null"
Answer:
<c:out value = "**param.id**" default = "**param.id**" />

42. **JSP life cycle method diagram is given:-**
Just write the name of the given empty spaces.
Answer:



43. **There are typically four scope attributes, where an object of JavaBean can be instantiated. You are required to list down all of them along with their data structures.**

Scope Attribute	Data Structure

Answer:

Scope Attribute	Data Structure
Page	**Objects may be accessed only within pages where they are created.**
Request	**Only within pages processing the request in which they are created.**
Session	**Only from pages belonging to same session as the one in which they are created.**
Application	**Within all pages belonging to same application.**

44. The secret of wide spread use of Java lies in providing specific technology for each layer. You are required to map the given technologies against appropriate layer as given in the following table.
Technologies: HTML, Applets, DAO, Connectors, JSP/Servlets, Frameworks (Struts, JSF etc), JavaBeans, EJB.

Layers	Java Technology
Client Presentation	
Server Presentation	
Business	
Data	

Answer:

Layers	Java Technology
Client Presentation	HTML/Applets
Server Presentation	JSP/Servlets Frameworks (Struts, JSF etc.)
Business	JavaBeans/EJB
Data	DAO/Connectors

45. What will be the output of the following multithreaded Java program?

```
public class ThreadsDemo extends Thread {

private String job ;

public ThreadsDemo(String job) {
   this.job = job ;
}

public void run() {

   for (int i = 1 ; i <= 5 ; i++) {

      // calling yield() method
      Thread.yield();
```

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```
            System.out.println(job + " = " + i);
        }
    }

    public static void main(String[] args) {

        ThreadsDemo a = new ThreadsDemo("First Job");
        ThreadsDemo b = new ThreadsDemo("Second Job");

        a.start();
        b.start();
    }
}
```

Answer:

46. **Complete the missing code from the following, which is written in JSF to create a submit button.**

```
1. <html>
2.       <h:body>
3.             <h:form>
4.                   <h:commandButton
5.="Login"
6.= "#{customer.loginActionListener}"
7.= "#{customer.login}" />
8.             </h:form>
9.       </h:body>
10. </html>
```

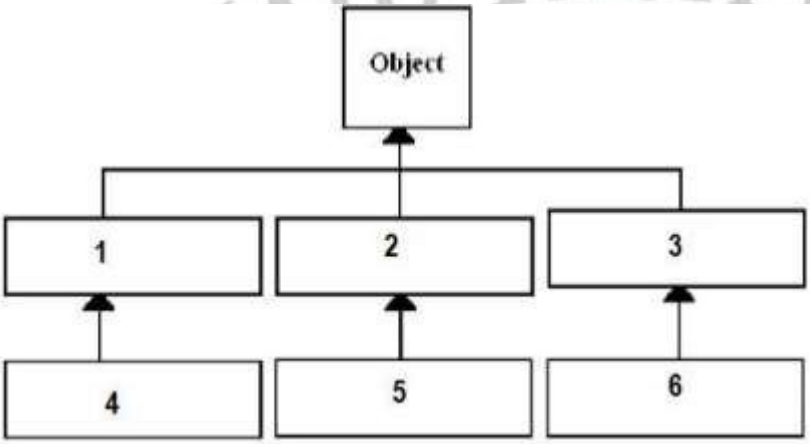
Note: no need to write complete code, just write the missing parts;

Answer:

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47. **Servlet class hierarchy is given without classes name. Write correct order of inherited classes from given classes that correctly complete this servlet class hierarchy and.**
    - **GenericServlet**
    - **HttpServlet**
    - **HttpServletRequest**
    - **HttpServletResponse**
    - **ServletRequest**
    - **ServletResponse**

Answer:



Note: Only write classes name in correct order. No need to draw or fill diagram.

1. GenericServlet
2. ServletRequest
3. ServletResponse
4. HttpServlet
5. HttpServletRequest
6. HttpServletResponse

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48. Fill given table with correct tag symbols from following JSP tags.

- <%@%>
- <jsp:…../>
- <%.....%>
- <%%>
- <%!%>
- <%=%>

Elements	Description	Symbol
Directive	Provides global control of JSP	
Scripting	JSP comments	
Scripting	Declaration, used to declare instance variables & methods	
Scripting	Expression, a java code segment which returns string	
Scripting	Scriptlets, blocks of java code	
Action	Special JSP tags	

Answer:

Elements	Description	Symbol
Directive	Provides global control of JSP	**<%@%>**
Scripting	JSP comments	**<%.....%>**
Scripting	Declaration, used to declare instance variables & methods	**<%!%>**
Scripting	Expression, a java code segment which returns string	**<%=%>**
Scripting	Scriptlets, blocks of java code	**<%%>**
Action	Special JSP tags	**<jsp:…../>**

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49. What is the difference between **getHeaderName()** and **getHeaderNames()** methods of HttpSerlvetRequest?

Answer:

getHeaderNames():

It returns the enumeration of all available header names that are contained in the request.

getHeaderName():

It takes a string parameter that represents the header name and returns the appropriate header.

Null value is returned if there is no header exists with the specified name.

50. Write 2 Characteristics of Expression Language.Answer:

Multiple expressions can be combined and intermixed with static text. For example

$ { –Hello‖ ${user.firstName} ${user.lastName} }

Most importantly, if object/identifier is null, no NullPointerException would be thrown☺. For example. If the expression written is:

${person.name}

51. Why yield( ) method use?Answer:

- Allows any other threads of the same priority to execute (moves itself to the end of the priority queue)
- If all waiting threads have a lower priority, then the yielding thread resumes execution on the CPU

52. What is the hidden comment in JSP?

Answer:

A comment that documents the JSP page but is not sent to the client.

Examples :- <%@ page language="java" %>

53. Which method of ResultSetMetaData object is used to return the suggested column label for print out?

Answer:

The getColumnLabel() method returns the suggested column label for printouts

54. What is the purpose of wait( ) , notify( ) and notifyAll( ) methods?

Answer

The wait(),notify(), and notifyAll() methods are used to provide an efficient way forthreads to wait for a shared resource. When a thread executes an object's wait() method, itenters the waiting state. It only enters theready state after another thread invokes theobject's notify() or notifyAll() method

55. What are the three stages of Servlet Lifecycle?

Answer:

A servlet passes through the following stages in its life.

1 Initialize
2 Service
3 Destroy

56. Advantages of using Custom Tags?

Answer

- Provides cleaner separation of processing logic and presentation, than JavaBeans.
- Have access to all JSP implicit objects like out, request etc.

- ❖ Can be customized by specifying attributes.

57. How JSF does provide Navigation?

Answer:- (Page 487)

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Page navigation determines the control flow of a Web application. JSF provides a default navigational handlerand this behavior can be configured in configuration file.

58. Difference between static and non static inner class?

Answer:

A non-static inner class may have object instances that are associated with instances of the class's outer class.A static inner class does not have any object instances.

59. Which Five operators are used in Expression Language?

Answer

Expression language can use the following five arithmetic operators to act on integer and floating pointvalues:

- + operator for addition
- - operator for subtraction
- * operator for multiplication
- / operator for division
- % operator for remainder

60. What is Expression in JSP? Give an example.

Answer

The format of writing a Java expression is: <%= Java expression %>
These expressions are evaluated, after converted to strings placed into HTML page at the place it occurred inJSP page Examples of writing Expressions are:
<h2> Time: <%= new java.util.Date() %> </h2>
will print current data & time after converting it to String
<h2> Welcome: <%=
request.getParameter(‐name‖)%> </h2> will print
the name attribute

61. Difference between ServletContext and ServletConfig?

Answer:

ServletConfig is a servlet configuration object used by a servlet container used to pass information to a servletduring initialization. All of its initialization parameters can ONLY be set in deployment descriptor.
The ServletContext object is contained within the ServletConfig object, which the Web server provides theservlet when the servlet is initialized.

You can specify param-value pairs for ServletContext object in <context-param> tags

in web.xml file.The ServletConfig parameters are specified for a particular servlet

and are unknown to other servlets.
The ServletContext parameters are specified for an entire application outside of any particular servlet and areavailable to all the servlets within that application.

ServletConfig defines an object generated by a servlet

engine. ServletContext defines an object to be created
by a servlet engine.

62. Disadvantage of Page-centered approach Answer:- (Page 411)

The page-centric approach has lot of draw backs such as the code becomes a mixture of presentation, business and data access logic. The maintenance and up-gradation of the application becomes a nightmare.

63. Methods of session tracking

Answer:- (Page 297)

1 Cookies
2 URL Rewriting
3 Hidden Fields

64. What does finalization means?

Answer:- (Page 47)

When a finalize method is defined in a class, Java run time calls finalize() whenever it is about to recycle anobject of that class.

65. What does error 404 display?

Answer:- (Page 244)

Indicates that the requested resource is not available.

66. Why do we need Expression language?

Answer:- (Page 451)

The Expression Language, not a programming or scripting language, provides a way to simplify expressionsin JSP. It is a simple language that is geared towards looking up objects, their properties and performing simple operations on them. It is inspired form both the ECMAScript and the XPath expression language.

67. Jsp directive.

Answer:

JSP directives are used to convey special processing information about the page to JSP container. It affectsthe overall structure of the servlet that results from the JSP page. It enables programmer to:

- Specify page settings
- To Include content from other resources
- To specify custom-tag libraries

68. Difference of forward and send redirect.

Answer:

When you invoke a forward request, the request is sent to another resource on the server, without the client being informed that a different resource is going to process the request. This process occurs completely with in the web container. When a sendRedirtect method is invoked, it causes the web container to return to the browser indicating that a new URL should be requested. Because the browser issues a completely new requestany object that are stored as request attributes before the redirect occurs will be lost. This extra round trip a

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redirect is slower than forward.

69. Jsp page directive?

Answer:- (Page 344)

Give high level information about servlet that will result from JSP page. It can be used



anywhere in thedocument. It can control.

- Which classes are imported
- What class the servlet extends
- What MIME type is generated
- How multithreading is handled
- If the participates in session
- Which page handles unexpected errors etc

70. Request dispatchers include method?

Answer:- (Page 282)

It allows a Servlet to include the results of another resource in its response. The two major differences fromforward are:

- ❖ Data can be written to the response before an include
- ❖ The first Servlet which receive the request, is the one which finishes the response

It will be more cleared from the following figure. User sends a HTTP Request to Servlet1. Serlet2 is called byServlet1 by using include(request, response) method. The response generated by Servlet2 sends back to Servlet1. Servlet1 can also add its own response content and finally send it back to user

71. What is the format in which the source code of Java converted after compilation?

Answer:- (Page 17)

Java programs (Source code) are compiled into a form called Java bytecodes. The Java compiler reads Java language source (.java) files, translates the source into Java bytecodes, andplaces the bytecodes into class (.class) files.

72. How many types of comments are used in JSP?

Answer:- (Page 334)

JSP may contain the following elements.

- ❖ Directive Elements
- ❖ Scripting Elements
- ❖ Action Elements

73. How to track a user session in Servlet?

Answer:- (Page 297)

Three typical solutions come across to accomplish session tracking. These are:

1 Cookies
2 URL Rewriting
3 Hidden Fields

74. Which method is used to read an object through serialization?

Answer: (Page 220)

readObject()

75. Explain your words that how Java bean is intended for use in some type of building tool?

Answer:

A java bean is intended for use in some type of building tool, but a bean or set of beans may not have anything to do with the GUI of the resulting application. Most often the intent is that the bean is configurableusing some GUI. The typical examples of non-graphical beans

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are Database access JavaBeans which result innothing in GUI bur may communicate with other Beans which are part of the application GUI.

76. What is expression language Nuggets?

Answer:

Syntax of EL
Expressions &
identifiers
Arithmetic, logical & relational
operatorsAutomatic type
conversion
Access to beans, arrays, lists
& mapsAccess to set of
implicit objects

77. What are the benefits of using Packages? Explain.

Answer

Packages are nothing more than the way we organize files into different directories according to theirfunctionality, usability as well as category they should belong to.

78. Types of layers? Briefly explain each.

Answer:- (Page 436)

Presentation Layer

It provides a user interface to the client/user to interact with the application. This is the only part of theapplication visible to client.

Its job list includes collecting user's input, validating user's input (on client side using JavaScript like technologies OR on server side), presenting the results of the request made by the user and controlling thescreen flow (which page/view will be visible to the user).

Business Layer

Also called application layer, it is only concerned with the application specific functionality. It is used toimplement business rules and to perform business tasks.
For example, in a banking system, this layer will provide the functionality of banking functions such asopening an account, transferring of balance from one account to another,
Calculation of taxes etc.

Data Layer

It is concerned with the management of the data & data sources of the system. Data sources can be database,XML, web services, flat file etc. Encapsulates data retrieval & storage logic
For example, the address book application needs to retrieve all person records from a database to display them to the user.

79. Why tracking is necessary

Answer:- (Page 295)

Many applications require a series of requests from the same client to be associated with

one another. For example, any online shopping application saves the state of a user's shopping cart across multiple requests.Web-based applications are responsible for maintaining such state, because HTTP protocol is stateless. Tosupport applications that need to maintain state, Java Servlet technology provides an API for managing sessions

and allows several mechanisms for implementing sessions.

80. Name any two logical layers of we application?

Answer: (Page 321)

- ❖ Presentation Layer
- ❖ Business Layer
- ❖ Data Layer

81. Write briefly 2 characteristics of EL?

Answer:

- □ Dynamically write data, such as user input into forms, to JavaBeans components
- □ Invoke arbitrary static and public methods
- □ Dynamically perform arithmetic operations

82. Why do we use session tracking in HTTP servlets?

Answer:

In HttpServlet we can use Session Tracking to track the user state. Session is required if you are developingshopping cart application or in any e-commerce application.

83. How JSP pages are informed about the error?

Answer:(Page 393)

JSP pages are informed about the error page by setting errorPage attribute of page directive

84. Write Advantages of JASP over Servlet?

Answer

- ❖ JSPs provide more convenient way to create HTML
- ❖ JSPs can use standard front end tools (e.g., UltraDev)
- ❖ JSPs divide and conquer the problem of presentation and business logic.

85. What is Significance of error Pages?

Answer

Error Pages enables you to customize error messages. You can even hide them from the user's view entirely,if you want.

86. Defining and Using Error Pages

- isErrorPage attribute of a page directive is used to declare a JSP as an errorpage.
- JSP pages are informed about the error page by setting errorPage attribute of page directive

87. Write features that JSP provide?

Answer: (Page 330)

Versus ASP or ColdFusion

- JSPs offer better language for dynamic part i.e. java
- JSPs are portable to multiple servers and operating systems

Versus PHP

- JSPs offer better language for dynamic part
- JSPs offer better tool support

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Versus pure servlets

- JSPs provide more convenient way to create HTML
- JSPs can use standard front end tools (e.g., UltraDev)
- JSPs divide and conquer the problem of presentation and business logic.

88. How can we encode URL which is sent to Client?
Answer:- (Page 317)

HttpServletResponse provides two methods to perform encoding

- String encodeURL(String URL)
- String encodeRedirectURL(String URL)

If Cookies are disabled, both methods encode (rewrite) the specific URL to include the session ID and returnsthe new URL. However, if cookies are enabled, the URL is returned unchanged.

89. For what purpose c:remove tag is used.
Answer:- (Page 472)

c:remove action is used to delete a scoped variable, and takes two attributes.

90. What are implicit objects?? list any two.
Answer:- (Page 339)

To simplify code in JSP expressions and scriptlets, you are supplied with eight automatically definedvariables, sometimes called implicit objects.

91. Garbage collection.
Answer:

Java performs garbage collection and eliminates the need to free objects explicitly. When an object has noreferences to it anywhere except in other objects that are also unreferenced, its space can be reclaimed.

92. Differentiate between Sequential Execution and multithreading.
Answer (Page 226)

Every program has atleast one thread. Programs without multithreading executes sequentially. That is, afterexecuting one instruction the next instruction in sequence is executed. If a function is called then until the completion of the function the next instruction is not executed. Similarly, if there is a loop then instructions after loop only gets executed when the loop gets completed.

93. What are packages? And how they are organized?
Answer:(Page 328)

Many times when we get a chance to work on a small project, one thing we intend to do is to put all java filesinto one single directory (folder). It is quick, easy and harmless. However, if our small project gets bigger, andthe number of files is increasing, putting all these files into the same directory would be a nightmare for us. Injava we can avoid this sort of problem by using Packages.In simple terms, a set of Java classes organized for convenience in the same directory to avoid the name collisions. Packages are nothing more than the way we organize files into different directories according totheir functionality, usability as well as category they should belong to.

94. What is the difference between custom tags and JavaBeans?

Answer:

the context of a JSP page, both accomplish similar goals but the differences are:

Custom Tags	JavaBeans
Can manipulate JSP content.	Can't manipulate JSP content.
Custom tags can simplify the complex operations much better than the bean can. But require a bit more work to set up.	Easier to set up.
Used only in JSPs in a relatively self-contained manner.	Can be used in both Servlets and JSPs. You can define a bean in one Servlet and use them in another Servlet or a JSP page.

95. What is servlet context mean?

Answer

ServletContext belongs to one web application. Therefore it can be used for sharing resources among servletsin the sameweb application.

96. What is validator? write types of built in validator?

Answer:- (Page 486)

Validators make input validation simple and save developers hours of programming. JSF provides a set of validator classes for validating input values entered into input components. Alternatively, you can write yourown validator if none of the standard validators suits your needs.

Some built-in validators are:

- **DoubleRangeValidator**

  Any numeric type, between specified maximum and minimum values

- **LongRangeValidator**

  Any numeric type convertible to long, between specified maximum and minimum values

- **Length Validator**

  Ensures that the length of a component's local value falls into a certain range (between minimum& maximum). The value must be of String type.

97. What is socket {2 m}

Answer: (Page 211)

A socket is one endpoint of a two-way communication link between two programs running generally on anetwork.

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98. What jsp scriplet {2 m}

Answer:

A **JSP scriptlet** is used to contain any code fragment that is valid for the scripting language used in a page.The syntax for a scriptlet is as follows:

<% scripting-language-statements %>

99. What types of web services available

Answer:- (Page 489)

- **Data providers**

  For example, a service providing stock quotes

- **Business-to-business process integration**

  For example, purchase orders

- **Enterprise application integration**

  Different applications work together simply by adding a webservice wrapper

100. w3c definition

Answer:(Page 488)

W3C recently has come up with a decent definition of web services. According to W3C, ―A Web service is asoftware application identified by a URI, whose interfaces and binding are capable of being defined, described and discovered by XML artifacts and supports direct interactions with other software applications using XML based messages via internet-based protocols‖.

101. What is value binding and method binding

Answer:(Page 487)

JSF – Value Binding

Value binding expressions can be used inside of JSF components to:

- Automatically instantiate a JavaBean and place it in the request or session scope.
- Override the JavaBean's default values through its accessor methods.
- Quickly retrieve Map, List, and array contents from a JavaBean.
- Synchronize form contents with value objects across a number of requests.

102. What is value binding and method binding

Answer:- (Page 487)

JSF – Value Binding

Value binding expressions can be used inside of JSF components to:

- Automatically instantiate a JavaBean and place it in the request or session scope.
- Override the JavaBean's default values through its accessor methods.
- Quickly retrieve Map, List, and array contents from a JavaBean.
- Synchronize form contents with value objects across a number of requests.

The syntax of binding expressions is based on the JavaServer Pages (JSP) 2.0 Expression Language. In JSP,expressions are delimited with "${}", but in JSF they are delimited with

"#{}".

JSF – Method Binding

Unlike a value binding, a method binding does not represent an accessor method. Instead, a method bindingrepresents an activation method.

For example, binding an event handler to a method
<h:commandButton ……

actionListener=–#{customer.loginActionListener}‖

103. What is meant of keyword transient?

Answer:- (Page 487)

transient keyword is used to mark a field that should not be serialized

104. What are basic features of http?

Answer:-

- ❖ Serving static and index files, and autoindexing; open file descriptor cache;
- ❖ Accelerated reverse proxying with caching; simple load balancing and fault tolerance;
- ❖ Accelerated support with caching of FastCGI, uwsgi, SCGI, and memcached servers; simple loadbalancing and fault tolerance;
- ❖ SSL and TLS SNI support.

105. What information can be appended to URL.

Answer:- (Page 308)

URL rewriting provides another way for session tracking. With URL rewriting, the parameter that we want topass back and forth between the server and client is appended to the URL. This appended information can be retrieve by parsing the URL. This information can be in the form of:

- Extra path information,
- Added parameters, or
- Some custom, server-specific URL change

106. Checked and Unchecked Exceptions.

Answer

Unchecked Exceptions

- Subclasses of RuntimeException and Error.
- Does not require explicit handling

Checked Exceptions

- Must be caught or declared in a throws clause
- Compile will issue an error if not handled appropriately
- Subclasses of Exception other than subclasses of RuntimeException.

107. What are action elements of JSP? How these are written.

Answer:- (Page 367)

JSP Action Elements

JSP action elements allow us to work with JavaBeans, to include pages at request time and to forwardrequests to other resources etc.

Format

Expressed using XML syntax

-Opening tag <jsp:actionElement attribute=”value” ….. >

-**Body** body

-Closing tag </jsp:actionElement>

Empty tags (without body) can also be used like **<jsp:actionElement attribute=”value” ….. >**

Some JSP Action Elements

□To work with JavaBeans

-<jsp:useBean />

-<jsp:setProperty />

-<jsp:getProperty />

□To include resources at request time

-<jsp:include />

□To forward request to another JSP or Servlet

-<jsp:forward />

□To work with applets

-<jsp:plugin />

108. Difference between page centric approach and page with bean approach.

Answer:- (Page 411)

Page-Centric Approach

A web application that is collection of JSPs. Generally this approach is followed to get started withdeveloping web applications.The page-centric approach has lot of draw backs such as the code becomes a mixture ofpresentation, businessand data access logic. The maintenance and up-gradation of the application becomes a nightmare. Scaling of such kind of application is also difficult andlots of code is also get duplicated.

Page-with-Bean Approach (MVC Model1)

This approach is different from page-centric approach in a way that all the business logic goes into JavaBeans. Therefore, the web application is a collection of JSPs and JavaBeans. But still this approach isinsufficient to separate different kind of logics.

108. include method of dispatcher

Answer: (Page 282)

It allows a Servlet to include the results of another resource in its response. The two major differences fromforward are:

- Data can be written to the response before an include
- The first Servlet which receive the request, is the one which finishes the response

It will be more cleared from the following figure. User sends a HTTPRequest to Servlet1. Serlet2 is called byServlet1 by using include (request, response) method. The response generated by Servlet2 sends back to Servlet1. Servlet1 can also add its own response content and finally send it back to user.

109. main() with static and without static

Answer:- (Page 29)

If main is not static then the JRE have to create an object of the class in which main method is present and call the main method on that object (In OOP based languages method are called using the name of object ifthey are not static). It is made static so that the JRE can call it without creating an object.

Also to ensure that there is only one copy of the main method per class

110. 2 steps of painting strategy

Answer:- (Page 187)

Subclass JPanel

Override the paintComponent(Graphics g) method

111. when run() method is invoked

Answer:-

When the start() method is invoked, the JVM creates a new thread and automatically calls the run() methodand that is why a new thread gets started and not by calling run() directly.

112. diff b/w encodeURL and encodeRedierstURl

Answer:- (Page 317)

encodeURL() is used for URLs that are embedded in the webpage, that the servlet generates. For example,String URL = ‖/servlet/sessiontracker‖;

String eURL = response.encodeURL(URL);

out.println(—<A HREF=\‖ ‖ + eURL + ‖\ ‖>

…… </A>‖);

Whereas encodeRedirectURL() is used for URLs that refers yours site is in sendRedirect() call. For example,String URL = ‖/servlet/sessiontracker‖;

String eURL =

response.encodeRedirectURL(URL);

Response.sendRedirect(eURL);

113. Why is j2EE said to b multi tired application?

Answer

The J2EE platform uses a multitiered distributed application model. Application logic is divided into components according to function, and the various application components that make up a J2EE applicationare installed on different machines depending on the tier in the multitiered J2EE environment to which the application component belongs. The J2EE application parts are:

- Client-tier components run on the client machine.
- Web-tier components run on the J2EE server.
- Business-tier components run on the J2EE server.
- Enterprise information system (EIS)-tier software runs on the EIS server.

114. Why we need jsp as we already have servlet

Answer:-

While JSP may be great for serving up dynamic Web content and separating content from presentation, somemay still wonder why servlets should be cast aside for JSP. The utility of servlets is not in question. They areexcellent for server-side processing, and, with their significant installed base, are here to stay. In fact, architecturally speaking, you can view JSP as a high-level abstraction of servlets that is implemented as an extension of the Servlet 2.1 API. Still, you shouldn't use servlets indiscriminately; they may not be appropriate for everyone. For instance, while page designers can easily write a JSP page using conventional HTML or XML tools, servlets are more suited for back-end developers because they are often written using an IDE -- a process that generally requires a higher level of programming expertise.

115. What are the disadvantages of url rewriting?

Answer:- (Page 308)

The following Disadvantages of URL rewriting, are considerable: -

- What if the user bookmarks the page and the problem get worse if server is not assigning a uniquesession id.
- Unlike cookies, state information stored in the URL is not persistent
- This mechanism limits the client interaction with the server to HTTP GET request.

116. What is impact a java bean object can produce when it is stored in an application

Answer:

JavaBean object that is stored in Servelet Request object remain accessible for the duration of current request.In other words until you continue to forward request to another servlet/JSP the bean value would be available.

117. What are java beans

Answer:- (Page 356)

A java class that can be easily reused and composed together in an application. Any java class that followscertain design conventions can be a JavaBean.

118. Can we overload main method?

Answer:

Sure you can. But, the only method that will get invoked when you try to run the class is the method withpublic static void main as the qualifier

119. What are output comments in

JSP?

Answer:

A comment that is sent to the client in the viewable page source.The JSP engine handles an output commentas uninterpreted HTML text, returning the comment in the HTML output sent to the client. You can see the comment by viewing the page source from your Web browser.

JSP Syntax

```
<!-- comment [ <%= expression %> ] -->
```

Example 1

```
<!-- This is a commnet sent to client on
<%= (new java.util.Date()).toLocaleString() %>
-->
```

Displays in the page source:

```
<!-- This is a commnet sent to client on January 24, 2004 -->
```

120.

Which listener interfaces are used to handle mouse events?

Answer:- (Page 130)

MouseMotionListener interface

- Used for processing mouse motion events
- Mouse motion event is generated when mouse is moved or dragged

MouseMotionListener interfaces is defined in JDK as followspublic interface MouseMotionListener { public void mouseDragged (MouseEvent me);public void mouseMoved (MouseEvent me); }

121.

Why client side validattion is used?

Answer:- (Page 480)

There are two good reasons to use client-side validation:

- It's a fast form of validation: if something's wrong, the alarm is triggered upon submission of the form.
- You can safely display only one error at a time and focus on the wrong field, to help ensure that theuser correctly fills in all the details you need.

122.

EJBs and JSP/servlet run on which server?

Answer: (Page 439)

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EJBs and JSP/Servlets works in two different servers. As you already know, JSP and Servlets runs in a web server where as EJBs requires an application server. But, generally application server contains the web serveras well.

123. What are streams?

Answer:- (Page 85)

I/O libraries often use the abstraction of a stream, which represents any data source or sink as an objectcapable of producing or receiving pieces of data.

124.

Differentiate layers and tiers

Answer: (Page 435)

. Layers – represents the logical view of application

. Tiers – represents physical view of application

125. What is differences between getRequestDispatcher(String path) method using javax.servlet.httpServletRequest or using servletContext?

Answer:

The getRequestDispatcher(String path) method of javax.servlet.ServletRequest interface accepts parameterthe path to the resource to be included or forwarded to, which can be relative to the request of the calling servlet. If the path begins with a –/‖ it is interpreted as relative to the current context root.The getRequestDispatcher(String path) method of javax.servlet.ServletContextinterface cannot acceptsrelative paths. All path must start with a –/‖ and are interpreted as relative to current context root.

126. Which containers use a border layout as their default layout?

Answer:

The Window, Frame and Dialog classes use a border layout as their default layout.

127. **What is webpage and web server?**

Answer

Webpage: Webpage is a resource which can be accessible over internet and displayed in a web browser.Web server: It is used to host the website/web application. Example: Apache Tomcat, MS IIS.

128. How can one swap the two variables without three variables

Answer

```
/*Program to swap 2 values without using the temporary variable and Arithmetic operators*/

class Swap
{
public static void main(String args[])
{int a=1;
      int b=2;
      System.out.println("Before swap: a="+a+"b="+b);
```

```
a=a^b;
b=a^b;
a=a^b;
System.out.println(" After swap: a="+a+"b="+b);
    }
    }
```

129. Why do we use doTag() method in tag handler class?

Answer:- (Page 435)

the dotag() method is used to implement/override to code functionality of tag. And this is invoked when theend element of the tag encountered.

130. Why is direct call of paint() method not recommended?

Answer:- (Page 191)

Painting is managed by system, so calling paintComponent() directly is not recommended at all. Similarly calling paint ( ) method is also not recommended. Why? Because such code may be invoked at times when itis not appropriate to paint -- for instance, before the component is visible or has access to a valid Graphics object.

131. What is the preferred size of a component?

Answer:

The preferred size of a component is the minimum component size that will allow the component to displaynormally.

132. What is the difference between variable declared inside a declaration part and variable declared inscriplet part?

Answer:

Variable declared inside declaration part is treated as a global variable, which means after translation of jspfile into servlet

- that variable will be declared outside the service method as an instance variable
- the scope is available to the complete jsp

Variable declared inside a scriplet will be declared inside a service method as a local variable and the scope iswith in the service method.

133. why we need tiers as we already have layers?

Answer:(Page 437)

Layers help in building a tiered architecture. Tiers are physically separated from each other. Layers arespread across tiers to build up an application. Two or more layers can reside on one tier.

134. What are the advantages of jsp over php?

Answer: (Page 330)

- ❖ JSPs offer better language for dynamic part

- JSPs offer better tool support

135. List any two Scope of the Java Bean?

Answer:

JavaBeans have scope, just like all variables. You declare this in the jsp:useBean element when you use thebean for the first time. There are multiple scopes possible for a bean.

They are:

1. Page
2. Request
3. Session

136. What type of data is sent to wbserver when user submits the button?

Answer:- (Page 270)

When a user submits a browser request to a web server, it sends two categories of data:

- **Form Data**

Data that the user explicitly type into an HTML form. For example: registration information provided forcreating a new email account.

- **HTTP Request Header Data**

Data, which is automatically, appended to the HTTP Request from the client for example, cookies, browsertype, and browser IP address.

Based on our understanding of HTML, we now know how to create user forms. We also know how to gatheruser data via all the form controls: text, password, select, checkbox, radio buttons, etc.

137. What is JSP? Why need JSP? How JSP FRAME WORK WORKS? 10 marks

Answer:- (Page 330)

JavaServer Pages (JSP)

JSP is also a specification. JSP technology enables Web developers and designers to rapidly develop and easily maintain, information-rich, dynamic Web pages that leverage existing business systems. As part of theJava technology family, JSP technology enables rapid development of Web-based applications that are platform independent.

The Need for JSP

With servlets, it is easy to

- Read form data
- Read HTTP request headers
- Set HTTP status codes and response headers
- Use cookies and session tracking
- Share data among servlets
- Remember data between requests
- Get fun, high-paying jobsBut, it sure is a pain to
- Use those println()statements to generate HTML

— Maintain that HTML

The JSP Framework

— Use regular HTML for most of the pages
— Mark servlet code with special tags
— Entire JSP page gets translated into a servlet (once), and servlet is what actually gets invoked(for each request)

The Java Server Pages technology combine with Java code and HTML tags in the same document to produce a JSP file



138. Name any four container classes?

Answer:-

Window, Frame, Dialog, FileDialog, Panel, Applet, or ScrollPane.

139. Which type of WEB services available?

Answer:- (Page 489)

- Data providers

For example, a service providing stock quotes

- Business-to-business process integrationFor example, purchase orders

- Enterprise application integration

Different applications work together simply by adding a webservice wrapper

140. What is meant by statement "classes implement interfaces"?

Answer:

We say that objects provide interfaces. If an object provides an interface, then the interface specifies thebehavior of the object. In other words, interfaces specify the behavior of the objects that provide them.

141. Which technology is used in java to support the following layers?

Presentation layer

Business Layer

Data Layer

Answer

There are several Java technologies available for web application development which includes Java Servlets,JavaServer Pages, JavaServer Faces etc.

142. What invokes a thread's run () method?

Answer:

After a thread is started, via its start() method or that of the Thread class, the JVMinvokes the thread's run()method when the thread is initially executed.

143. How cookies are sent to a client?

Answer:- (Page 299)

Sending Cookies to Browser

Following are some basic steps to send a cookie to a browser (client).

1.Create a Cookie Object

A cookie object can be created by calling the Cookie constructor, which takes two strings: the cookie nameand the cookie value.

Cookie c = new Cookie (–name‖, –value‖);

144. Setting Cookie Attributes

Before adding the cookie to outgoing headers (response), various characteristics of the cookie can be set.For example, whether a cookie persists on the disk or not. If

yes then how long.

A cookies by default, lasts only for the current user session (i.e. until the user quits the session) and willnot be stored on the disk.

Using setMaxAge(int lifetime) method indicates how much time (in seconds) should elapse before the
cookie expires.

c.setMaxAge(60); // expired after one hour

145. Place the Cookie into HTTP response

Answer:

After making changes to cookie attributes, the most important and unforgettable step is to add thiscurrently created cookie into response. If you forget this step, no cookie will be sent to the browser.response.addCookie(c);

146. What are the characteristics of web services?

Answer:- (Page 489)

Web services are XML-based throughout. Pretty much everything in the domain of Web services is defined inXML. For example, the format of the data being exchanged between service user and service provider is defined in XML or the description of web service is defined in XML.

Web services can be dynamically located and invoked. And typically they will be accessed and invoked overboth internet and intranet.

Interoperable

Connect across heterogeneous networks using ubiquitous web-based standards

Economical

Recycle components, no installation and tight integration of software

Automatic

No human intervention required even for highly complex transactions

Accessible

Legacy assets & internal apps are exposed and accessible on the web

Available

Services on any device, anywhere, anytime

Scalable

No limits on scope of applications and amount of heterogeneous applications

147. What is the usage of sleep (int time) method?

Answer: (Page 235)

-Causes the currently executing thread to wait for the time (milliseconds) specified

-Waiting is efficient equivalent to non-busy. The waiting thread will not occupy the processor

-Threads come out of the sleep when the specified time interval expires or when interrupted by some otherthread

-Thread coming out of sleep may go to the running or ready state depending upon the availability of theprocessor. The different states of threads will be discussed later

-High priority threads should execute sleep method after some time to give low

priority threads a chance torun otherwise starvation may occur
-sleep() method can be used for delay purpose i.e. anyone Cal call Thread.



Sleep()method
-Note that sleep() method can throw Interrupted Exception. So, you need try-catch block

148. When Use Page centric approach?

Answer:

It has lot of Drawbacks as mixture of all logic layers and scaling is difficult so this approach used in small web application where maintenance would be any mess

149. Write java code syntax which will create a cookies object c.

Answer:

A cookie Objects can be created by calling cookie constructor, which takes two strings the cookie name and the cookie value.

Cookie c= new Cookie("name","value")

150. What is the Purpose of Hash Maps in session Tracking Through cookies?

Answer:

Servlet has one global HashMap (globalMap) in which HashMap of individual user (sessionInfo) are going to be stored. This (sessionInfo) HashMap stores the books selected by the user.
What's the part of cookies? Cookie (named JSESSIONID, with unique value) is used to keep the unique sessionID associated with each user. This sessionID is passed back and forth between user and the server and is used to retrieve the HashMap (sessionInfo) of the user from the global HashMap at the server. It should be noted here that, HashMaps of individual users are stored in a global HashMap against a sessionID.

151. What is the Difference Between Client Socket and Server Socket?

Answer:

As soon as client creates a socket that socket attempts to connect to the specified server.

- The server listens through a special kind of socket, which is named as server socket.
- The sole purpose of the server socket is to listen for incoming request; it is not used for communication

152. Write the Code Statement to remove the Value Associated with the "amazonSession" of Objects "Session".

Answer:

removeAttribute(String)

- This method removes values associated with the name

```
Session.rmoveAttributes ( " amazoneSession");
```

153. What is Tag Libray?

Answer:



The JSP Stand for Tag Library (JSTL) is a Collection of Custom tag Libraries.

154. Write an Expression language equivalent to

1. Out :implicit object of JSP
2. request.getParameter("id");

Answe ${out}

equal to PrintWriter out= this.getContext();

- ${ param.name }
  - This expression is equivalent to calling

```
request.getParameter("name");
```

155. In HashMap we can use put method to add objects into HashMap. Is the code given below correct or not? If there is problem then identify the problem.

```
h.put(1 , s1);
h.put(2 , s2);
h.put(3, s3);
```

Answer:

```
first parameter should be a string

      h.put("one". s1);
      h.put("two". S2);
      h.put("three". S3);
```

156. What is use of [] operator in EL? Give one Example.

The dot (.) and bracket ([ ]) operator let you access identifies and their properties. The dot operator typically used for accessing the *properties of an object* and the bracket operator is generally used to retrieve *elements of arrays and collections*.

157. Being a java web developer, you know each tag handler class must inherit from another class. What is name of that class?

Usually extend from `SimpleTagSupport` class that has already implemented `SimpleTag` interface.

- For example,

```
public class MyTagHandler extends SimpelTagSupport {
.....
.....
}
```

158. Write Literals that can be used as an EL. Also Write there Possible Values

Answer:

Literals	Literal Values
Boolean	true or false
Integer	Similar to Java e.g. 243, -9642
Floating Point	Similar to Java e.g. 54.67, 1.83
String	Any string delimited by single or double quote e.g. "hello" , 'hello'
Null	Null

159. Write the State of Life Thread.

ANSWER:

These are Following

- New State
  - When thread is Created
- Ready State
  - thread can Now Execute
  - Put the Thread in to Ready Que of the Schedular
- Running State
  - Thread is assigned a process and Now in Running
- Dead State
  - Thread has EXIT

160. What is Meant by JOINING THREADS.

ANSWER:

- When a Threads want to wait for a thread to completed a run() method
- Calling Join can throw interruptedException, And you need to try Catch-Block for handle it

161. Write the Missing Code

```
public class JoinEx {
public ______ void main (String args[ ]){
 Worker first = new ______ ("first job");
```

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Worker second = new Worker ("second job");
Thread t1 = new _____ (first);
Thread t2 = new Thread (second);

System.out.println("Starting..."); // starting threads
t1.start();
t2._____;

ANSWER:

- ❖ Static
- ❖ Worker
- ❖ Thread
- ❖ Start()

162. How many methods to perform encoding of HttpServletResponse?

ANSWER:

It provides Two Methods:

- ❖ String encodeURL
- ❖ String encodeRedirectURL

163. Method of HTTP SESSION:

ANSWER:

These are Following

- ❖ setAttribute()
- ❖ getAttribute()
- ❖ removeAttribute()
- ❖ getID()
- ❖ getCreationTime()
- ❖ setMaxInactiveInterval() and getMaxInactiveInterval()

164. Missing the CODE:

package world;
public class HelloWorld {
public _____ void main(String[] args) {
System.out.println("Hello World");
}

ANSWER:

- ❖ Static

165. Benefits of JSP

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ANSWER:

- ❖ Convenient
- ❖ Portable
- ❖ Inexpensive
- ❖ Efficient

166. Write the Missing CODE:

CODE:

```
import java.net.*;
import java.io.*;
import _________*;
public class ClientWriteNetEx{
public static void main(String args[]){
try {
PersonInfo p = new PersonInfo(“ali”, “defence”, “9201211”);
// create a communication socket
Socket s = new ______(“localhost”, 2222);
// Get I/O streams
OutputStream is = s._____________();
// attaching ObjectOutput stream over Input stream
ObjectOutputStream oos= new ObjectOutputStream(_____);
// writing object to network
oos._________ (p);
// closing communication socket
s.close();
}catch(Exception ex){
System.out.println(ex); }
}} // end class
```

ANSWER:

1. Javax.swing.*
2. Socket
3. getOutPutStream
4. is
5. writeObject(p)

167. Write the Missing Code

CODE:

```
import java.io.*;
public _____ WriteEx{
public _____ void main(String args[ ]){
PersonInfo pWrite = new PersonInfo("ali", "defence",
"9201211");
try {
// attaching FileOutput stream with “ali.dat”
FileOutputStream fos = new _________("ali.dat");
// attaching ObjectOutput stream over FileOutput stream
ObjectOutputStream out = new ObjectOutputStream(_____);
//serialization
// writing object to ‘ali.dat’
out.writeObject(pWrite);
// closing streams
out.close();
_________();
} catch (Exception ex){
System.out.println(ex);
}
}
} // end class
```

ANSWER:

1. class
2. static
3. FileOutputStream
4. fos
5. fos.close

168. Write a Libraries of the Given URL and Prefix in EL?

CORE, SQL, XML, Internationalization/

ANSWER:

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Library	URI	Prefix
Core	http://java.sun.com/jsp/jstl/core_**rt**	c_**rt**
SQL	http://java.sun.com/jsp/jstl/sql_**rt**	sql_**rt**
Internationalization/ _	http://java.sun.com/jsp/jstl/fmt_**rt**	fmt_**rt**
XML	http://java.sun.com/jsp/jstl/xml_**rt**	x_**rt**

169. Write a Libraries of the Given URL and Prefix in EL?
ANSWER:

170. Extra Path Information Added Parameters Custom change URL type?
ANSWR

Library	URI	Prefix
Core	http://java.sun.com/jsp/jstl/core	c
SQL	http://java.sun.com/jsp/jstl/sql	sql
Internationalization/ _	http://java.sun.com/jsp/jstl/fmt	fmt
XML	http://java.sun.com/jsp/jstl/xml	x

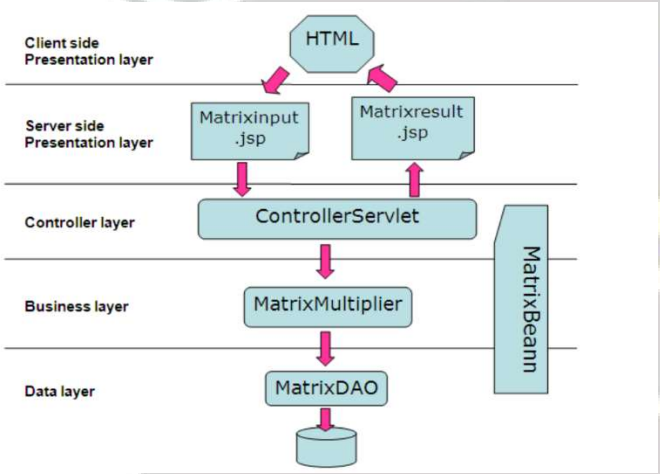
171. Write a code of Cookies when Refresh a page the Cookies hide?

ANSWER:

```
Cookie c=new cookie("myname","JUNAID");
Response.addcookie(c);
Cookie [] cookies=request.getcookies();
For(int i=0; i<cookies.length; i++){
Cookie c=cookies[i];
If(c.getName().equal("myname"){
Out.println("My name is :" + c.getvalue());
}}
```

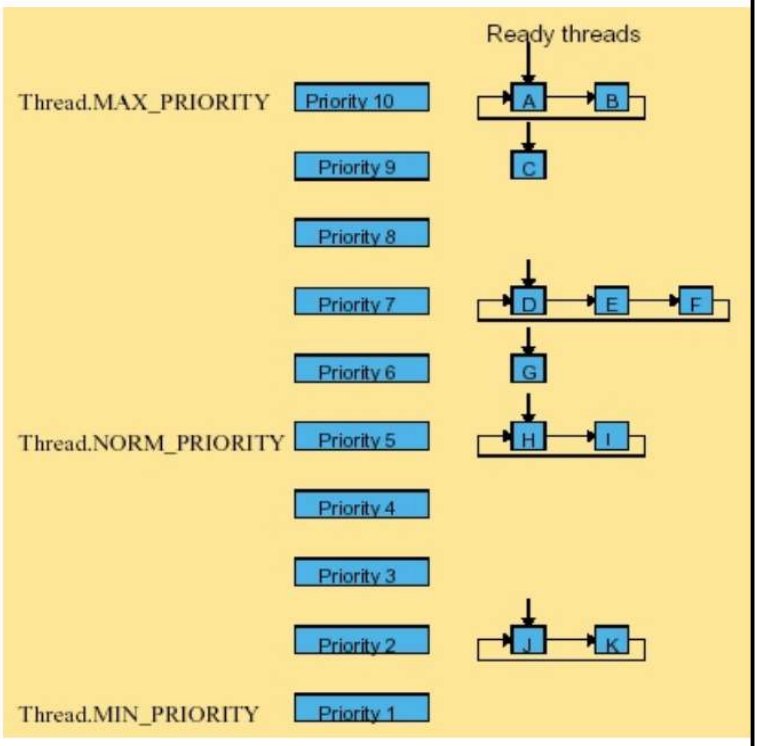
172. Layer by Layer View

ANSWER:



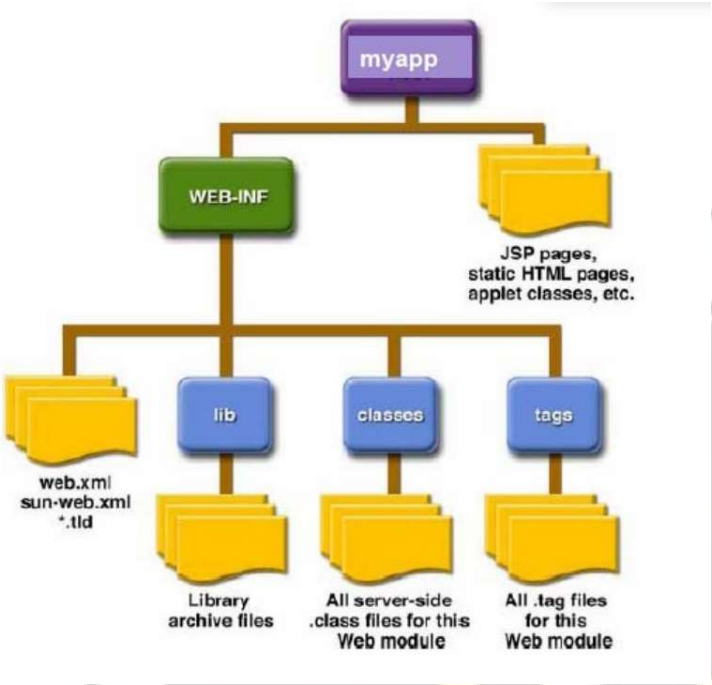
173. Given a Table and Tell which ABC Threads Comes First.

ANSWER:



174. Diagram is Given and Write the Name

ANSWER:



Name are Given

- ❖ WEB-INF
- ❖ LIB
- ❖ Classes
- ❖ TAGS

175. Write usability and example of Name object and Anonymous object? Anonymous object?

ANSWER:

Anonymous object:

Anonymous object in Java means creating an object without any reference variable. Generally, when creating an object in Java, you need to assign a name to the object. But the anonymous object in Java allows you to create an object without any name assigned to that object.

System.out.println("JUNAID MALIK");

Named object:

Named object java provides a class with name Class in java. Instances of the class Class represent classes and interfaces in a running Java application

String s ="JUNAID MALIK";

System.out.println(s);

176. Write the format of usebean, setProperty and getProperty method?

ANSWER:

StеProperty():

```
<jsp:setProperty name = "beanName or id" property = "name" value
="value"/>
```

Getproperty():

```
<jsp:getProperty name = "beanName or id"property = "name"/>
```

177. MouseListenr Interface.

ANSWER:

- ❖ Pressed
- ❖ Release
- ❖ Enter
- ❖ Exit

178. Core Actions

ANSWER:

- Manipulation of scoped variables
- Output
- Conditional logic
- loops
- URL manipulation
- and Handling errors.

179. JSP action Element

ANSWER:

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- To work with JavaBeans
  -<jsp:useBean />
  -<jsp:setProperty />
  -<jsp:getProperty />
- To include resources at request time
  -<jsp:include />
- To forward request to another JSP or Servlet
  -<jsp:forward />
- To work with applets
  -<jsp:plugin />

180. Life Cycle of a Thread

ANSWER:

- ❖ New State
- ❖ Ready State
- ❖ Running State
- ❖ Dead State

181. Hellow world, your name , vu wesite k link ko print krna tha.idea

ANSWER:

```
public class HelloWorld {
 public static void main(String[] args) {
System.out.println("Hello World");
} }
```

182. Missing the CODE

CODE:

```
<!DOCTYPE html>
<html>
<head>
<title> Login Page </title>
</head>
<body>
<form>
<h1> LOGIN </h1>
```

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Email <_____ type = "Email" placeholder = "Enter your email">

Password <_____ type = "password" placeholder = "Enter your password">

<input type = "Submit" _____= "Login">
</_____>
</body>
</____>
ANSWER:

1. input
2. input
3. value
4. form
5. html

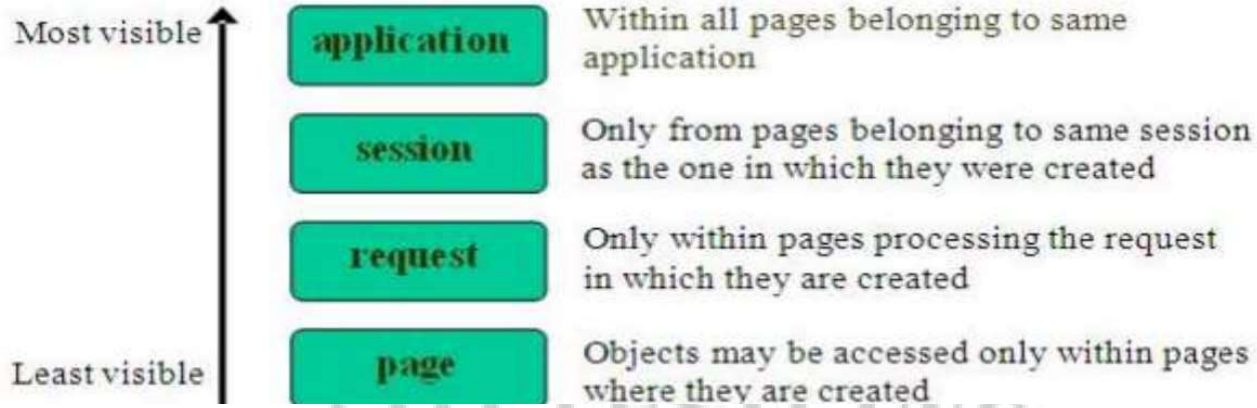
183. You have to write 6 EL Literal
ANSWER:

Literals	Literal Values
Boolean	true or false
Integer	Similar to Java e.g. 243, -9642
Floating Point	Similar to Java e.g. 54.67, 1.83
String	Any string delimited by single or double quote e.g. "hello" , 'hello'
Null	Null

184. Inheritance aur interface class what use?
ANSWER:

- Interface Use Implementation
- Inheritance use Extend

185. Most or least Visible type
ANSWR:



186. Print one line Hello world ,welcome to virtual university in simply way?

ANSWER:

```
public class JUNAID_MALIK {
public static void main(String[] args) {
System.out.println("Hello World, welcome to virtual university");
}
}
```

187. Write a Program Welcome aborad or Welcome back show.

ANSWER:

PAGE NO 209

188. Types of JSF

ANSWER:

- ❖ DoubleRangeValidator
- ❖ LongRangeValidator
- ❖ LengthValidator

189. Diagram given and Tell the Name of

