Short Question

What is the key feature of object-oriented design?

ANSWER:

The key feature of object-oriented design is that it treats everything as object having properties and methods. These objects are separately treated and designed and once designed it can be used in any other system. So once designed can\\\\\\be used many times.

Write one purpose of using spreadsheets?

ANSWERS:

Purpose of spreadsheets is that it can do calculations on data accurately.

Write down two advantages of writing Pseudo Code

Answers:

The advantages of pseudo code are:

- It is quite similar to human language so easy to understand.
- It is close to real code so easy to write real code from it.

How can we calculate total number of rows in the truth table?

ANSWER:

The formula for calculating number of rows in truth table is 2^n

Where n = number of inputs

Differentiate between Vector graphics and Bit-mapped graphics.

ANSWER:

VECTOR GRAPHICS	BIT MAPPED IMAGES
1. Treat everything as an object	1. Treats everything as a bit map.
2. Is resolution independent	2. Resolution dependent
3. Relatively small size	3. Large files
4. Example: Corel Draw	4. Example: Microsoft Paint

Write differences between Shareware and trail ware software.

ANSWER:

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SHAREWARE	TRIALWARE
1. These are shared freely. 2. It is given without payment ahead of time.	1. Software is offered for a trial period. 2. When the period is expired it is no more in use.

What is the problem with Brute Force Strategy approach?

Answer:

A strategy in which all possible combinations are examined and the best among them is selected

What is the problem with this approach?

Doesn't scale well with the size of the problem

How many possible city sequences for n=6? For n=60? For n=600?

What was the name of first computer in which binary numbers were used instead of decimal numbers?

Answer:

The Atanasoff-Berry Computer was the world's first electronic digital computer. It was built by John Vincent Atanasoff and Clifford Berry at Iowa State University during 1937-42. It incorporated several major innovations in computing including the use of binary arithmetic, regenerative memory, parallel processing, and separation of memory and computing functions.

How can we say that JavaScript is Not Object-Oriented language?

Answer:

It is so because it lacks two key features:

A formal inheritance mechanism

Strong typing

Nevertheless, it does include many key concepts that are part of almost all object-

Oriented languages, and therefore is referred as an object-based language

List down the names of any three parameters on which we analyze an algorithm?

Answer:

Analysis in the context of algorithms is concerned with predicting the resources that re

Requires:

- Computational time
- Memory
- Bandwidth
- Logic functions

What is function of Goal Seek command in Excel?

Answer:

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When you use the Goal Seek command, Excel changes the value in one cell until the value in a second cell reaches a number that you desire. For instance, if you had a spreadsheet that calculated profit for the Bola eService from a variety of inputs, including employee numbers, expenses, products sold, price of products, you might use goal seek to define your break-even price of products. You would tell the computer to change price of products until Profit was zero (break-even), and you would do that using Tools, Goal Seek.

What is the difference between Desktop Computer and Super Computer? Give at least three differences

Answer:

Desktop Computer	Super Computer
1.These are generally consisting of a single processor only, sometimes 2, along with MB's of memory, and GB's of storage 2.PC's are used for running productivity applications 3. Workstations cost a few thousand dollars; PC around a $1000.	1. These are generally consisting of a single, double or many processor. 2.A supercomputer is typically used for scientific and engineering applications that must handle very large databases or do a great amount of Computation (or both). 3. Normally Its value is very high.

What makes System Software different from Application software? Explain the attributes of

Good application software. Please write down the concise and to the point answer. (4+4)

Answer

System Software	Application software
1. System software is responsible for controlling, integrating, and managing the individual hardware components of a computer system. 2. It is talk directly to hardware. Example: operating system, device driver etc.	1. Programs that generally interact with the user to perform work that is useful to the user. 2. It is directly with system software. 3. Example: MS word etc.

Convert the following numbers from decimal numbers into binary numbers:

Answer

a)

1. 24

Answer = 11000

2. 55

Answer = 110111

3. 84

Answer = 1010100

b) X, Y is Boolean variables. Determine the truth tables for the following combinations:

(x.y)

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x	y	X=x.y
0	0	0
1	0	0
0	1	0
1	1	1

Write the HTML code that will generate the similar page as shown below. You have to put

The form elements within the table.

Answer:

```
<html>
        <head>
                <title></title>
        </head>
        <body bgcolor="pink">
        <br>
        <h1 align="center">Vitual University</h1>
        <br>
        <br>
        <form name="login" method="post" action="loginscript">
        <p><table align="center" border="8" bgcolor="white" bordercolor"white">
        <tr>
        <td>Student name:</td>
        <td><input type="text" name="studenname"></d>
        </tr>
        <td>Roll no:</td>
        <td><input type="text" name="roll no"></d>
        </tr>
        <td>Password:</td>
        <td><input type="password" name="password"></d>
        </tr>
        </table></p>
        <p align="center"><input type="submit" name="Submit">
        <input type="reset" name="submit">
        </p>
```

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</body>

</html>

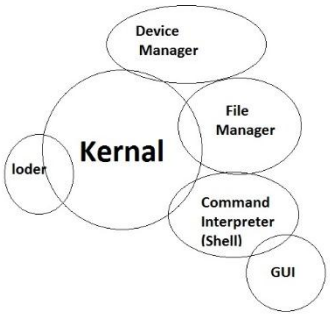
Draw the OS components diagram? What are the main responsibilities that Kernel plays in Operating system? Please write down in 6-7 lines max.

Answer:

The heart of the OS

Responsible for all the essential operations like basic house keeping, task scheduling, etc.

Also contains low-level HW interfaces Size important, as it is memory-resident



How you can enhance the capability of a micro processor? Write down the answer in maximum 5-6 lines

Answer:

The computing capability of a microprocessor can be enhanced in many different

Ways:

Evolution of Intel Microprocessor

- By increasing the clock frequency
- By increasing the word-width
- By having a more effective caching algorithm and the right cache size
- By adding more functional units (e.g. ALU's, FPU's, Vector/SIMD units, etc.)
- Improving the architecture

Create the following page using html and JavaScript as shown in the image below. If someone

Press "Ok" (submit) button without entering "age", it should show a message "Please enter

Your age".

Options in drop down menu are

1) **Chocolate**
2) **Vanilla**
3) **Cherry Garcia**
4) **Pizza Pancake**

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5) None of the above!



Answer:

```
<html>
    <head>
        <title></title>
    </head>
    <body>
    <form name="icecreammanu" mathod="post" action="script"
    <p align="center"><table border="1">
    <tr><td align="center" bgcolor="gray"><br><br>Popular Ice cream<br><br></td></tr>
    <tr>
    <td>
        your age:<input type="text" name="age" size="2"><br>
        what is your favourie ice cream<br>
        <select size="1" name="manu">
        <option value="Chocolate">Chocolate</option>
        <option value="Vanilla "> Vanilla </option>
        <option value="Cherry Garcia">Cherry Garcia</option>
        <option value="Pizza Pancake ">Pizza Pancake </option>
        <option value="None of the above!">None of the above!</option>
        </select>
    </td>
    </tr>
```

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</table></p>

</body>

</html>

What is coding?

Answer:

The process of telling the computer what to do

WYSIWYG

Answer:

Define URL

Answer:

URL (Uniform Resource Locator, previously Universal Resource Locator) - pronounced YU-AHR-EHL or, in some quarters, UHRL - is the address of a file (resource) accessible on the Internet. The type of file or resource depends on the Internet application protocol. Using the World Wide Web's protocol, the Hypertext Transfer Protocol (HTTP), the resource can be an HTML page (like the one you're reading), an image file, or any other file supported by HTTP. The URL contains the name of the protocol required to access the resource, a domain name that identifies a specific computer on the Internet, and a pathname (hierarchical description of a file location) on the computer.

On the Web (which uses the Hypertext Transfer Protocol), an example of a URL is:

http://www.ietf.org/rfc/rfc2396.txt

Which describes a Web page to be accessed with an HTTP (Web browser) application that is located on a computer named www.ietf.org. The pathname for the specific file in that computer is /rock/rfc2396.txt.

An HTTP URL can be for any Web page, not just a home page, or any individual file.

Examples:

http://dawn.com

http://www.vu.edu.pk

http://www.smeda.org.pk

What is Deterministic Algorithm?

Answer:

An algorithm whose behavior can be completely predicted from the inputs That is, each time a certain set of input is presented, the algorithm gives the same results as any other time the set of input is presented.

There can be degrees of deterministic behavior: an algorithm that also uses a random number generator might not be considered deterministic However, if the "random numbers" come from a pseudo-random number generator, the behavior may be deterministic

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Most computing environments offer a “pseudo random number generators,” therefore, most randomized algorithms, in practice, behave deterministically!

What are JavaScript literal and what are its types?

Answer:

A data value that appears directly in a statement

Literals can be of several types. Some of them are:

- Number
- String
- Boolean

What is the key feature of batch programs?

Answer:

These are typically started from a shell (or automatically via a scheduler) and tend to

Follow a pattern of:

Initialize internal data

Read input data

Process that data

Print or store results

Key feature: No user interaction with the e computer while the program is running

Name two languages which are used for client side scripting?

Answer:

1. JavaScript

What is the purpose of MODEM?

Answer:

I/O device used for connecting two computers over telephone lines

Modem = modulator + demodulator

Modulator converts computer messages to electrical pulses that are suitable for transmission over the telephone lines

Demodulator converts electrical pulses received over telephone lines into messages that are comprehensible for computers

What is Home Page of a web site?

Answer:

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For a Web user, the home page is the first Web page that is displayed after starting a Web browser like Netscape's Navigator or Microsoft's Internet Explorer. The browser is usually preset so that the home page is the first page of the browser manufacturer. However, you can set it to open to any Web site. For example, you can specify that "http://www.yahoo.com" or "http://whatis.com" be your home page. You can also specify that there be no home page (a blank space will be displayed) in which case you choose the first page from your bookmark list or enter a Web address. 2) For a Web site developer, a home page is the first page presented when a user selects a site or presence on the World Wide Web. The usual address for a Web site is the home page address, although you can enter the address (Uniform Resource Locator) of any page and have that page sent to you.

What is the difference between Interactive-mode and Batch-mode Application Software?

Answer:

Interactive-mode	Batch-mode
The user runs the program on the computer and keeps on interacting with the computer while the program runs Example: Word processor	The user runs the program on the computer and keeps on interacting with the computer while the program runs Example: Word processor

What is meant by microprocessor's Instruction Set?

Answer:

The set of machine instructions that a microprocessor recognizes and can execute – the only language microprocessor knows An instruction set includes low-level, a single step-at-a-time instructions, such as add, subtract, multiply, and divide

Each microprocessor family has its unique instruction set Bigger instruction-sets mean more complex chips (higher costs, reduced efficiency), but shorter programs An instruction set, or instruction set architecture (ISA), is a specification detailing the commands that a computer's CPU should be able to understand and execute, or the set of all commands implemented by a particular CPU design. The term describes the aspects of a computer or microprocessor typically visible to a programmer, including the native data types, instructions, registers, me more architecture, interrupt and fault system, and external I/O (if any). "Instruction set architecture" is sometimes used to distinguish this set of characteristics from the Micro o-Architecture, which are the elements and techniques used to implement the ISA, e.g. Microcode, pipelining, cache systems, etc. Bigger instruction-sets mean more complex chips (higher costs, reduced efficiency), but shorter programs. Each microprocessor family has its unique instruction set. Following are the few ISA;

MIPS

Motorola 6800

ARM

PowerPC

X86 (Pentium)

ALGOL Object Code

SPARC

What are the basic components of a program?

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Answer:

Describe the function of an action attribute?

Answer:

(a) Write down two positive features of client-side scripting

(b) Discuss two deficiencies of JavaScript.

Answer:

Write an HTML Code for the following Output on browser

- Male
- Female

Answer:

```
<Html>
        <Head>
                <title></title>
        </head>
        <body>
        <form name="gendr" mathod="post" action="loginscript">
        <input type="radio" name="gender"  value="male">Male<br>
        <input type="radio" name="gender" value="female">Female<br>
        </form>
        </body>
</html>
```

What do you mean by Comments?

Answer:

Comments

Comments are included on a Web page to explain how and why you wrote the page the way you did Comments can help someone other than the author to follow the logic of the page in the author's absence The commented text is

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neither displayed in the browser nor does it have any effect on the logical performance of the Web page, and is visible only when the actual code is viewed

JavaScript Comments

Single-line comments (two options)

// Author: Bhola

<!-- Creation Date: 24 March 2003

Multi-line comments

/* Author: Bhola Creation

HTML Comments

<!-- Author: Bhola

Creation Date: 24 March 2003 -->

Note : comments let the code speak for itself!

Comments add clarity

Decimal to Binary Conversion in JavaScript

```
x = 75 ;  // x is the decimal number
y = “”; // y is the binary equivalent
While (x > 0) {
  Remainder = x % 2;
  Quotient = Math. Floor(x / 2);
  y = remainder + y;
  x = quotient;
}
Document. Write (“y =” + y);
```

During Today’s Lecture …

We found out about JavaScript data types

About variables and literals

We also discussed several operators supported by JavaScript

How can an operating system be viewed as a resource allocator?

Answer:

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Define URL

Answer:

URL (Uniform resource locator)

URL (Uniform Resource Locator, previously Universal Resource L orator) - is the address of a file (resource) accessible on the Internet. The type of file or resource depends on the Internet application protocol.

Examples of URLs: http://vu.edu.pk

http://www.yahoo.com

What is Randomized Algorithm?

Answer:

Randomize end Algorithm:

Any algorithm him whose behavior is not only determined by the input, but also values produced by a random number generator these algorithms are often simpler and more efficient than deterministic algorithms for the same problem. And because of their simplicity they are easier to analyze which is the most important thing in the decision making of an algorithm.

What was the name of first super computer? When it was introduced?

Answer:

CRAY1 is the first computer and it was introduced in 1973

How a designer makes Structured Design?

Answer:

Structured Design is known as a Top-down design.

The designed first conceives about the High level design and then further designs the details of the high level el design components and it goes on and on. Making small changes in the functionality y of the systems sometimes leads to major re-design exercise. Structured design separates the functionality from programs data and that's why programs designed by this methodology are difficult to maintain. How a designer makes Structured Design? Structured Design is known as a Top-down design. The designed first conceives about the High level design and then further designs the details of the high level el design components and it goes on and on. Making small changes in the functionality y of the systems sometimes leads to major re-design exercise. Structured design separates the functionality from programs data and that's why programs designed by this methodology are difficult to maintain.

Why microprocessor uses the binary number system and not the decimal or any other number system?

Answer:

The processor is the logic of a computer and functions comparably to a human central nervous system, directing signals from one component to another and enabling everything to happen. A microprocessor is made from miniaturized transistors and other circuit elements on a single semiconductor integrated circuit (IC). These are made up of semiconductor and silicon.

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Microprocessor are composed of components which has only two states either 0 or 1. Binary number system is also composed of these two states.

Microprocessor till today only understand the machine language a d machine language is only based on binary num ber system. Even today's 64 bit microprocessors are also based on this technology.

Why do we need an Interactive Form in a webpage?

Answer:

1. Interactive forms are used to gather user data and interact with the user.
2. Forms can be made interactive with the use of client side scripting and server side scripting.
3. In HTML, < FORM> < /FORM> ta g is used to insert the form in a web page and it always lie in <BODY></BODY> html tag.
4. Without form's web site is only "READ ONLY".
5. With the help of forms a user and can search the contents, place order for goods and services.
6. Forms can be simple or very complex, based on the requirement.
7. Forms can contain a single element or many e.g. text area, buttons

What are compilers used for?

Answer:

Compiler is a software that can translate the whole program in once.it also save the program.

What is Script?

Answer:

Script is a sequence of steps to carry out a work by processor and manage by a language like JavaScript and vb scripts.

What is < P> tag in HTML and how it is different from <br> tag?

Answer:

 is used for paragraph in HTML language it has a closing tag unlike <bra> which has no closing tag. Br only used to break the current line while can be used for more lines

How can you manipulate the address of a file (resource) accessible on the Internet?

Answer:

World Wide Web, URL, domain name

www.youtube.com

Write Hyper Link for a Web Page and for an Email Address.

Answer:

Following are the hyper link for a web page

www.vu.ed u .pk

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www.yaho o.com

www.hotmail.com

Following are the hyperlinks for Email address

rashidumer50@yahoo.com

rashidumer50@hotmail.c

Write down the requirement of Desktop Publishing?

Answer:

User requirement

Software requirements

Laser printer

Scanner

Desktop publishing soft wares e.g.

Adobe page maker

MS publisher

High end pc with a large screen monitor

Format

Numerical data

Text

Photograph

Charts

What is the key feature of batch programs?

Answer:

The key feature is no user interaction with computer while a program is running.

Name two languages which are used for client side scripting?

Answer: JavaScript, V Bscript

What is the purpose of MODEM?

Answer:

It receive data analog signal from a phone line and then convert them into digital signal and send back to the computer with which it is attached. It also receives data from computer and convert it into analog signals.

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What is Home Page of a web site?

Answer:

For a web user it is a first page displayed when a user starts a web browser and for a web developer it is a first page when a user selects a site.

Why microprocessor uses the binary number system and not the decimal or any other number system?

Answer:

Because this system is n natural for digital computer. Digital computer have fundamental building blocks like ON & OFF Etc. so it is natural to represent those in a number system that has only two symbols e.g. Binary Numbers 0,1. Whereas decimal system is natural for human.

What is the difference between Interactive-mode and Batch-mode Application Software?

Answer:

Batch-mode: This Mode Program has no user interaction with computer while a program is running e.g. Payroll
Interactive-mode: The user runs the program on the computer and keeps interacting with the computer while a program is running e.g. word processor

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