*Java script*

* *Creating a programmable web page*
* *Javascript is an interpreted programming or script language*
* *Javascript is object oriented programming language initially designed and implemented by netscape*
* *Most widely used language for client-side scripting of web pages*
* *Used to make dynamic web pages*
* *Automatically change a formatted date on a web page*
* *Javascript program can be placed anywhere within the HTML files*
* *Many programs favor placing their programs between<head>*
* *Some programs favor placing their programs in <body>*

*Using the <script> tag*

* *To embed a client-side script in a web page,use the elements:*
* *<script type=”text/javascript”>*
* *Script commands and comments*
* *</script>*
* *To acess an external script,use:*
* *<script src=”url” type=”text/javascript”>*
* *Script commands and comments*
* *</script>*

*Javascript display possibilities*

* *Javascript can “display”date in different ways:*
* *Writing into an HTML element,using innerHTML.*
* *Writing into the HTML output using document.write()*
* *Writing into an alert box,using window.alert()*
* *Writing into browser console,using console.log()*

*Comments*

* *The syntax for a single-line comment is:*
* *//comment text*
* *The syntax of a multi-line comment is:*
* */\**
* *Comment text covering several lines*
* *\*/*
* *Javascript commands and names are case sensitives*
* *Javascript commands lines end with a semicolon to separate it from the next command line in the program*
* *A variables is a name that is used to designate a value*
* *The first character must be either a letter or an underscore character(-)*
* *Variables r case sensitive*
* *Variables r numeric variables,string variables, Boolean variables,null variables.*

*Operators:*

* *The assignment operator (=)assigns a value to a variable*
* *Var x=5;*
* *Var y=2;*
* *Varz=x+y;*
* *The addition operator(+)adds numbers:*
* *Var x=5;*
* *Var y=2;*
* *Varz=x+y;*
* *The multiplication operator(\*)multiplies number*
* *Var x=5;*
* *Var y=2;*
* *Varz=x\*y;*
* *The division operator (/)divides the number*
* *Var x=5;*
* *Var y=2;*
* *Varz=x/y;*
* *Modulus operator(%)*
* *Increment (++)*
* *Decrement(--)*
* *Equal to ==*
* *Equal value and equal type===*
* *Not equal !=*
* *Not equal value !==*
* *Greater than >*
* *Less than <*
* *Greater than or equal to >=*
* *Less than or equal to <=*
* *Ternary operator ?*
* *Logical operators*
* *&& logical and*
* *|| logical or*
* *! logical not*
* *Creating javascript function*
* *Function function\_name(parameters){*
* *Javascript commands*
* *}*

*Returning a value from a function*

* *Function area(width,length){*
* *Varsize=width\*length;*
* *Return size:*
* *}*
* *The area function calcutes the area of a rectangular region and place the value in a variable named “size”.*
* *The value of the function is returned by the function*

*Conditional statement:*

* *If(condition){*
* *Javascript commands*
* *}*
* *Condition is expression either true r false*
* *In condition they r three types comparison r boolean ,logical ,and conditional operators*

*If else statement*

* *If(condition){*
* *Javascript commands if true*
* *}else*
* *Javascript commands if false*
* *}*
* *Condition is an expression that is either true or false and one setoff command is run if the expression is true and another is run if the expression is false.*

*The math objects & math methods*

* *Another way of performing a calculation is to use the javascript built in math methods.*
* *These methods are applied to an object called the math object.*
* *The syntax for applying a math methods is:*
* *Value=math.method(variable);*
* *For example,*
* *Absvalue=math.abs(numvar)*
* *Math methods*
* *Math.obs:returns the absolute value of number*
* *Math.sin:calculates the sine of number, where number is an angle expressed in radians*
* *Math.cos:calculates the cosine of number, where number is an angle expressed in radians*
* *Math.round:round number to closet integer*
* *Math.cell :rounds number up to the next highest integer*
* *Math.random:returns a random number between 0&1*
* *Math.floor:rounds number down to the next lowest integer*

*Array:*

* *An array is an ordered collection of values referenced by a single variable name.*
* *The syntax for creating an array variable is*
* *Var variable=new array(size);*
* *Variable is the name of array variable*
* *Size is the number of element in the array*
* *Using array we can write a single statement*
* *Here we can create”jan”.”feb”……..”dec”.*

*Loops:*

* *A program loop is a set of instructions that is executed repeatedly.*
* *There r two types of loops*
* *Loops that r repeat a set number of times before quitting*
* *Loops that repeat as long as long as certain condition is met*

*For loop:*

* *The loop allows u to create a group of commands to be executed a set number of times throught the use of a counter that tracks the number of times the command block has been run*
* *For(start;condition;update){*
* *Javascript commands*
* *}*
* *Start is the starting value of the counter*
* *Condition is a Boolean expression that must be true for the loop to continue*
* *Update specifies how the counter changes in value each time the command block is executed.*

*The while loop*

* *The while loop runs a command group as long as a specific condition is met,but it does not employ any counters*
* *The general syntax of while loop is:*
* *While (condition){*
* *Javascript commands*
* *}*
* *Condition is Boolean expression that can be either true r false.*

*Programming languages*

* *Old languages: fortan ,basic ,pascal*
* *Timeless languages: c,c++,sml*
* *Modern languages: java ,javascript , perl ,python, ruby, c#, Haskell*
* *Server-side programs*
* *A user must be connected to the web server to run the server-side script*
* *Only programmers can create or alter the script*
* *Client-side programs*
* *Solve many of the problems associated with server-side script*
* *Can neaver completely replace server-side scripts*
* *Javascript implementations*
* *A complete javascript has three types*
* *The core*

*The Document Object Model*

* *The document object model describes methods and interfaces for working with the content of a web page*
* *The dom is tree based language-independent API for HTML as well as XML.*
* *The document object belongs that both the dom&bom*
* *getelementByTagName(),getelementsByName(),getelementsById()*

*The Browser Object Model*

* *Describes methods and interfaces for interacting with the browser*

*Objects*

* *Document anchors ,forms,images,links,location,frames,history,location,navigator,screen*

*Methods*

* *moveBy(),moveTo(),resizeBy(),resizeTo(),open(),close(),alert(),confirm(),input(),settimeout(),cleartimeout(),setinterval(),clearinterval()*
* properties
* *screenX, screenY, status,defaultstatus,etc*

*events*

* *an html web page has finished loading*
* *an html input field was chanded*
* *an html button was clicked*

*with single quotes*

* *<element event=’some javascript’>*

*With double quotes:*

* *<element event=”some javascript”>*

*Common html events*

* *Onchange :an html element has been changed*
* *Onclick:the user clicks an html element*
* *Onmouseover:the user moves the mouse the mouse over an html element*
* *Onmouseout:the user moves the mouse away from an html element*
* *Onkeydown:the user pushes a keyboard key*
* *Onload:the brower has finished loading the page*

*Object oriented programming*

* *The object oriented paradigram is a programming methodology that promotes the effieient design and development of software systems using reusable comments that can be quickly and safely assembled in large system.*
* *The main aim of object oriented programming is to implement real world concepts like*
* *Object:real world entity*
* *Classes:temples /blue prints*
* *Abstraction:visibility controls*
* *Inheritance: backward compapatibility ,parent child relation*
* *Polymorphism*
* *Encapsulation*

*Object:*

* *Means a real world entity*
* *This object consist of properties*
* *Tasks performed*
* *Instance of a class*
* *Ex:human:name,color,height*
* *Task:walk()*
* *Run()*
* *Read()*
* *Write()*

*Class:*

* *Class is a blue print that object follows*
* *With out the class there is no object*
* *Class consists of number of objects*

*Abstraction:*

* *Showing only essential parts hiding the implementation details*
* *If we download an application from android application*

*Encapsulation:*

* *Binding variables&methods under single entity class*
* *Name:student*
* *Variables:name,rollno,doj*
* *Methods:read(),write(),play().*

*Inheritance:*

* *Acquiring the properties of one class to another class*
* *Child class aquare the parent class*
* *Parent class:base class,super class*
* *Child class: derived class,sub class*
* *Single inheritance*
* *Multi inheritance*
* *Hierarchical inheritance*
* *Polymorphism*
* *Performing the same task in different ways .*
* *Task means methods*
* *By implementing method overloading(compile-time)*
* *By implementing method overloading(run-time)*