1. Write the CSS rules for a simple static website.
   * 1. Rule for a background image is **left top** of the page, **tiling horizontally**. The image should **remain in place** when the user scrolls up or down.
     2. All paragraphs text **1.5 times** larger than the base font of the system and colors it **red** (inline, embedded and external style sheet).
     3. Rule for all H1 & H2 elements a **padding of 0.5em**, a grooved border style and a **margin of 0.5em**. (Box Model)

<style>

body { background-image:url("Z:\Koala.jpg");

background-position:"top left ";

background-repeat:"repeat-x";

background-attachment:" fixed";

}

p{font-style:italic;

font-size:1.5em;

color:"red";

}

h1,h2{ padding:0.5em;

margin:0.5em;

border-style:groove;

}

</style>

<br />

<p>

Text is 1.5 times larger than the base font of the system, color isi red and font sytle is Italic

</p>

<h1>

Header 1 :: The text contains a padding of 0.5 em, margin 0.5 em and border style is groove

</h1>

<h2>

Header 2 :: The text contains a padding of 0.5 em, margin 0.5 em and border style is groove

</h2>

2. Write a script which reads a four digit integer entered by the user in a prompt dialog and encrypt it as replace each digit by the sum of that digit plus 7 modulus 10 and then swap the first digit with the third, and swap the second digit with the fourth. Then output the encrypted data . Write a separate script that inputs an encrypted integer and decrypts it to from the original number.

<script language="JAVASCRIPT" type="TEXT/JAVASCRIPT">

var n=parseInt(window.prompt("Enter a number:",0000));

document.writeln("The given number is "+n+"<br><br>");

var a=new Array(4);

i=0;

while(n>0)

{

a[i++]=parseInt(parseInt(n%10)+7)%10;

n/=10;

}

b=a[0];

a[0]=a[2];

a[2]=b;

b=a[1];

a[1]=a[3];

a[3]=b;

sum=0;

for(var i=3;i>=0;i--)

sum=sum\*10+a[i];

document.writeln("The encrypted number is ");

if(a[3]==0)

document.writeln("0");

document.writeln(sum);

for(i=0;i<4;i++)

a[i]=parseInt((a[i]+3)%10);

b=a[0];

a[0]=a[2];

a[2]=b;

b=a[1];

a[1]=a[3];

a[3]=b;

sum=0;

for(var i=3;i>=0;i--)

sum=sum\*10+a[i];

document.writeln("<br><br>The decrypted number is "+sum);

</script>

3. Write the following scripts using JavaScript

1. Search a number from a given list of numbers using **Binary Search**technique.
2. Sort given set of numbers using **Bubble Sorting** technique.

**binary search**

<script>

var a=new Array(5);

var key;

for(var i=0;i<a.length;i++)

a[i]=parseInt(window.prompt("enter array"));

for(var i=0;i<a.length;i++)

{

for(var j=i+1;j<a.length;j++)

{

if(a[i]>a[j])

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}

}

key=parseInt(window.prompt("enter key"));

i=0;j=a.length-1;

do

{

mid=parseInt((i+j)/2);

if(a[mid]==key)

{

document.write("element found");

break;

}

else if(a[mid]>key)

j=mid-1;

else

i=mid+1;

}

while(i<=j);

if(i>j)

{document.write("element not found");

}

</script>

**Bubble sort**

<script>

var a=new Array(10);

for(var i=0;i<a.length;i++)

a[i]=parseInt(window.prompt("elements"));

loop: for(var i=0;i<a.length;i++)

{

for(var j=0;j<a.length-i-1;j++)

{

if(a[j]>a[j+1])

{

temp=a[j];

a[j]=a[j+1];

a[j+1]=temp;

}

if(i>a.length)

break loop;

}

}

document.write(a);

</script>

4. Write scripts for the following using recursive functions

1. Write a function to power which takes two arguments **m** and **n**, and returns **mn** (consider m and n are integers**).**
2. Factorial & finding nth Fibonacci

**power of m and n**

<script>

varm,n,prod=1;

m=window.prompt("enter the value of m",0);

n=window.prompt("enter the value of n",0);

power(m,n)

function power(m,n)

{

for(i=1;i<=n;i++)

prod=prod\*m;

window.alert(m+" power "+n+" is "+prod);

}</script>

**Factorial**

<script>

var n= parseInt(window.prompt("enter n value",""));

var res=factorial(n);

alert("factorial is:"+res);

function factorial(n)

{

if(n<=1)

return 1;

else

return n\*factorial(n-1);

}

</script>

**Fibonacci series**

<script language="JAVASCRIPT" type="TEXT/JAVASCRIPT">

function fib(n)

{

if(n==1||n==0)

return 1;

else

return fib(n-1)+fib(n-2);

}

</script>

<script>

varn,f;

n=parseInt(window.prompt("Enter a number"));

document.writeln("The fibonacci numbers are<br>");

for(i=0;i<n;i++)

{

f=fib(i);

document.writeln(f+"<br>");

}

</script>

5. Write a script which reads two matrices from the prompt dialog, and do the matrix multiplication.

var m1,n1,m2,n2;

m1=parseInt(window.prompt("enter no of rows of first matrix","0"));

n1=parseInt(window.prompt("enter no of colomns of first matrix","0"));

m2=parseInt(window.prompt("enter no of rows of second matrix","0"));

n2=parseInt(window.prompt("enter no of colomns of second matrix","0"));

if(n1!=m2)

window.alert("2 matrices r not compatable 4 multiplication");

else

{

a=new Array(m1);

for(var i=0;i<a.length;i++)

a[i]=new Array(n1);

b=new Array(m2);

for(var i=0;i<b.length;i++)

b[i]=new Array(n2);

c=new Array(m1);

for(var i=0;i<b.length;i++)

c[i]=new Array(n2);

read(a);

read(b);

for(i=0;i<m1;i++)

for(j=0;j<n2;j++)

{

c[i][j]=0;

for(k=0;k<n1;k++)

c[i][j]+=a[i][k]\*b[k][j];

}

display("first matrix",a);

display("second matrix",b);

display("result matrix",c);

}

function read(x)

{

for(i=0;i<x.length;i++)

for(j=0;j<x[i].length;j++)

{

x[i][j]=parseInt(window.prompt("enter["+i+1+","+j+1+"]element","0"));

}

}

function display(str,y)

{

document.write("<h2>"+str+"</h2>");

for(i=0;i<y.length;i++)

{

for(j=0;j<y[i].length;j++)

document.write(y[i][j]+" ");

document.writeln("<br/>");

}

}

**</script>**