Web technologies -lab

Cycle sheet-2

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1) According to Wikipedia a happy number is defined by the following process : "Starting with any positive integer, replace the number by the sum of the squares of its digits, and repeat the process until the number equals 1 (where it will stay), or it loops endlessly in a cycle which does not include 1. Those numbers for which this process ends in 1 are happy numbers, while those that do not end in 1 are unhappy numbers (or sad numbers).Write a JavaScript program to find and print the first 5 happy numbers.

Code:

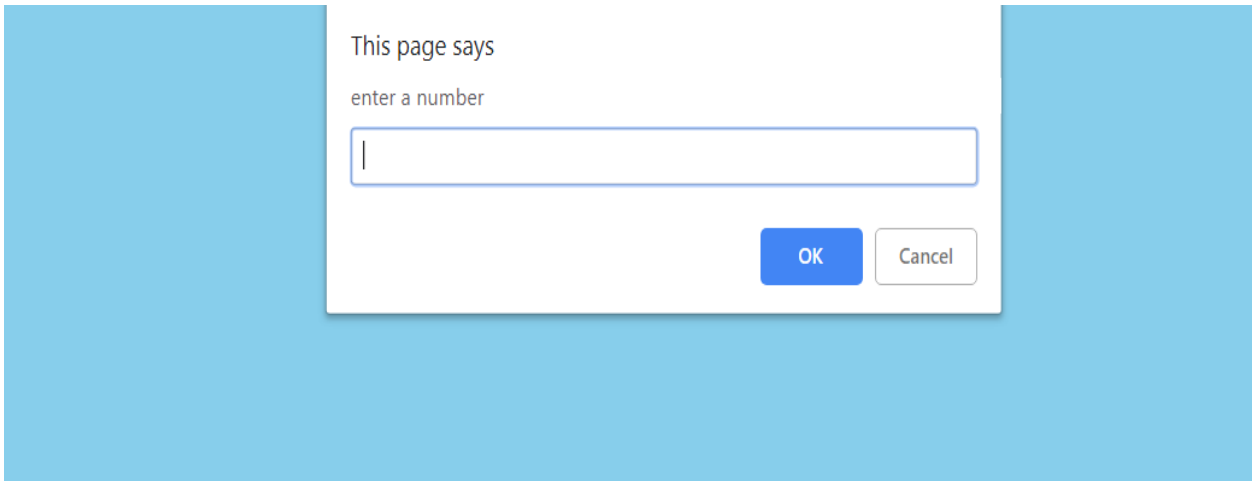
To check whether the entered number is happy number or not:

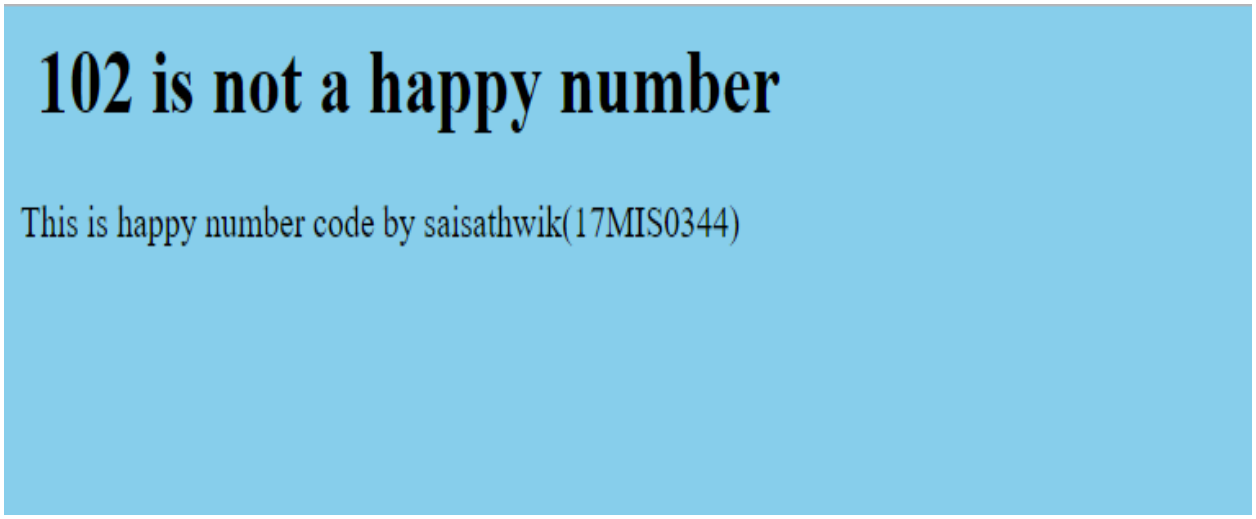
```
<html>

<head>

<title>happy numbers</title>

<script type="text/javascript">

var n;
```

```
var m;
var d;
var sum=0;
   n=parseInt(prompt("enter a number"));
       m=n;
       while(m>=7)
       {
              while(m!=0)
              {
                     d=m%10;
                     sum=sum+(d*d);
                     m=(m-d)/10;
              }
              m=sum;
              sum=0;
       }
       if(m==1)
   {
              document.write("<h1 >"+" "+ n +" " + "is  a
happy number" +"</h1>");
```

```
        }
        else
        {
                document.write("<h1>"+" "+ n +" " + "is not a happy number" +"</h1>");        }
</script>
</head>
<body bgcolor="skyblue">
<b>This is happy number code by saisathwik(17MIS0344)</b>
</body>
</html>
```

Output:



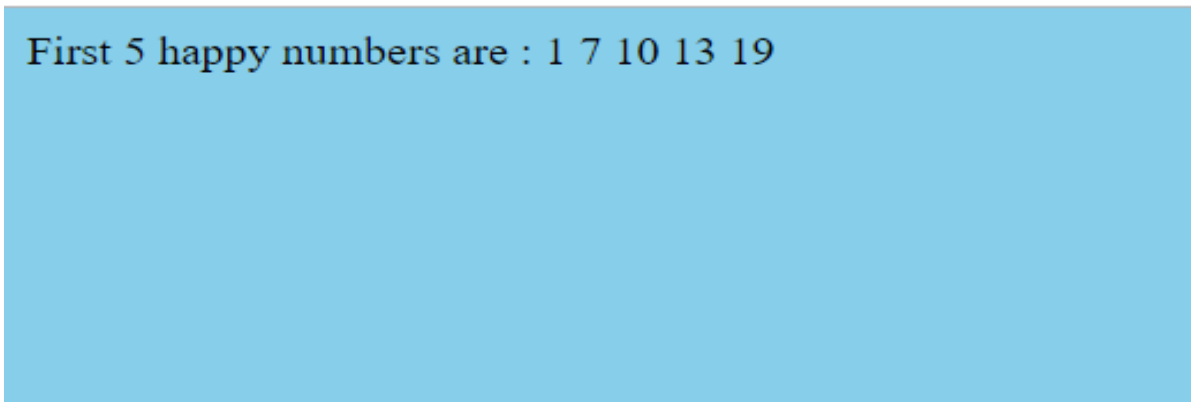


TO print first five happy numbers:

```
<!DOCTYPE html>
<html>
<head>
<script>
function happy_number(num)
{
var m, n ;
```

```
var c = [] ;
while(num != 1 && c[num] !== true)
{
c[num] = true ;
m = 0 ;
while (num > 0) {
n = num % 10 ;
m += n * n ;
num = (num - n) / 10 ;
}
num = m ;
}
return (num == 1) ;
}
var cnt = 5;
var num = 1;
var f5 = '';
while(cnt-- > 0)
{
while(!happy_number(num))
```

```
num++ ;
f5 = f5+(num +" ") ;
num++ ;
}
document.write('First 5 happy numbers are : '+f5);
</script>
</head>
<body bgcolor="skyblue">
</body>
</html>
```



2) Design a HTML page to generate an image slide show using Javascript. First input all the images(minimum of 5 images) you want to add to the slideshow. Add a button to start the slideshow. Repeatedly starting from the first to last, display each image for 5 seconds and then display the next image. Add two buttons to view the previous and next image.

Code:

```
<html>
<head>
<style>
* {box-sizing: border-box}
body {font-family: Verdana, sans-serif; margin:0}
.mySlides {display: none}
img {vertical-align: middle;}
.slideshow-container {
max-width: 1000px;
position: relative;
margin: auto;
}
P{
margin-left:250px;
margin-top:20px;
}
.prev, .next {
cursor: pointer;
position: absolute;
```

```
top: 50%;
width: auto;
padding: 16px;
margin-top: -22px;
color: white;
font-weight: bold;
font-size: 18px;
transition: 0.6s ease;
border-radius: 0 3px 3px 0;
}
.next {
right: 0;
border-radius: 3px 0 0 3px;
}
.prev:hover, .next:hover {
background-color: rgba(0,0,0,0.8);
}
.text {
color: #f2f2f2;
font-size: 15px;
```

```
padding: 8px 12px;
position: absolute;
bottom: 8px;
width: 100%;
text-align: center;
}
.numbertext {
color: #f2f2f2;
font-size: 12px;
padding: 8px 12px;
position: absolute;
top: 0;
}
.dot {
cursor: pointer;
height: 15px;
width: 15px;
margin: 0 2px;
background-color: #bbb;
border-radius: 50%;
```

```
display: inline-block;
transition: background-color 0.6s ease;
}
.active, .dot:hover {
background-color: #717171;
}
.fade {
-webkit-animation-name: fade;
-webkit-animation-duration: 1.5s;
animation-name: fade;
animation-duration: 1.5s;
}
@-webkit-keyframes fade {
from {opacity: .4}
to {opacity: 1}
}
@keyframes fade {
from {opacity: .4}
to {opacity: 1}
}
```

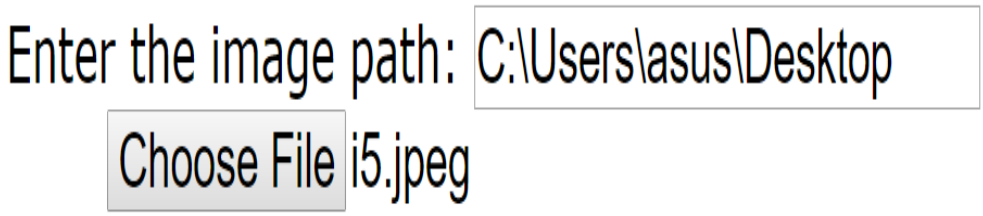
```
@media only screen and (max-width: 300px) {
.prev, .next,.text {font-size: 11px}
}
</style>
</head>
<body>
<p align="center" style="font-size:30">Enter the image path: <input type="text" style="font-size:30"> <input type="file" accept="image\*" style="font-size:30"></p>
<div class="slideshow-container">
<div class="mySlides fade">
<div class="numbertext"></div>
<img src=" i1.jpg" style="width:100%">
<div class="text"></div>
</div>
<div class="mySlides fade">
<div class="numbertext"></div>
<img src="i2.jpg" style="width:100%">
<div class="text"></div>
</div>
```

```
<div class="mySlides fade">
<div class="numbertext"></div>
<img src="i3.jpg" style="width:100%">
<div class="text"></div>
</div>
<div class="mySlides fade">
<div class="numbertext"></div>
<img src="i4.jpg" style="width:100%">
<div class="text"></div>
</div>
<div class="mySlides fade">
<div class="numbertext"></div>
<img src="i5.jpg" style="width:100%">
<div class="text"></div>
</div>
<a class="prev" onclick="plusSlides(-1)">&#10094;</a>
<a class="next" onclick="plusSlides(1)">&#10095;</a>
</div>
<br>
<div style="text-align:center">
```

```
<span class="dot" onclick="currentSlide(1)"></span>
<span class="dot" onclick="currentSlide(2)"></span>
<span class="dot" onclick="currentSlide(3)"></span>
<span class="dot" onclick="currentSlide(4)"></span>
<span class="dot" onclick="currentSlide(5)"></span>
</div>
<script>
var slideIndex = 1;
showSlides(slideIndex);
function plusSlides(n) {
showSlides(slideIndex += n);
}
function currentSlide(n) {
showSlides(slideIndex = n);
}
function showSlides(n) {
var i;
var slides = document.getElementsByClassName("mySlides");
var dots = document.getElementsByClassName("dot");
if (n > slides.length) {slideIndex = 1}
```

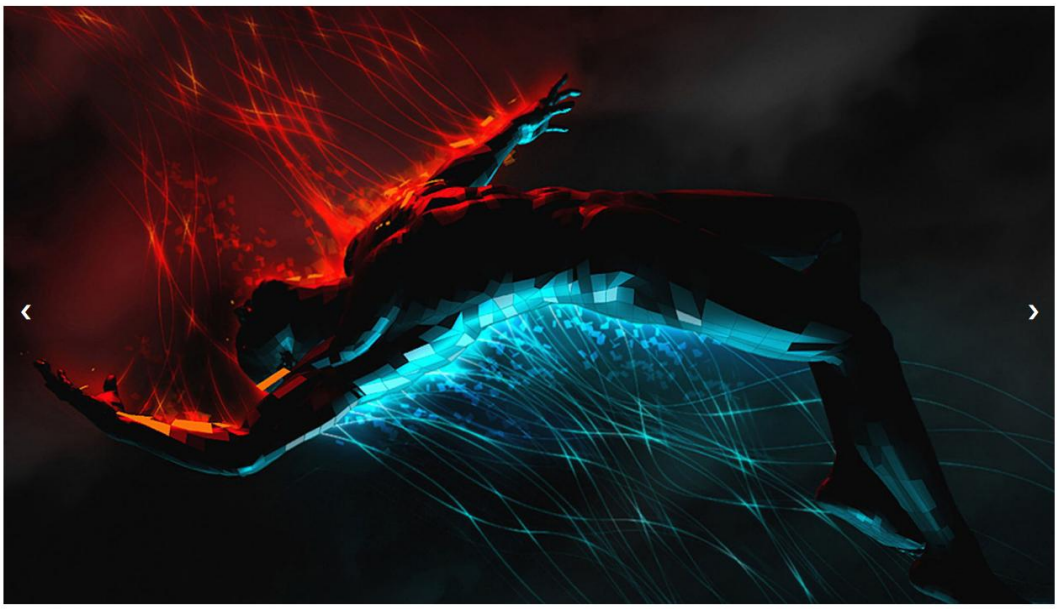
```
if (n < 1) {slideIndex = slides.length}
for (i = 0; i < slides.length; i++) {
slides[i].style.display = "none";
}
for (i = 0; i < dots.length; i++) {
dots[i].className = dots[i].className.replace(" active", "");
}
slides[slideIndex-1].style.display = "block";
dots[slideIndex-1].className += " active";
}
</script>
</body>
</html>
```

Output:



Enter the image path: C:\Users\asus\Desktop

Choose File i5.jpeg



Enter the image path: C:\Users\asus\Desktop

Choose File i5.jpeg

Enter the image path: C:\Users\asus\Desktop

Choose File i5.jpeg

3) A parking garage charges a $2.00 minimum fee to park for up to three hours. The garage charges an additional $0.50 per hour for each hour or part thereof in excess of three hours. The maximum charge for any given 24-hour period is $10.00. Assume that no car parks for longer than 24 hours at a time. Write a script that calculates and displays the parking charges for each customer who parked a car in this garage yesterday. You should input from the user the hours parked for each customer. The program should display the charge for the current customer and should calculate and display the running total of yesterday's receipts. The program should use the function calculate-Charges to determine

Code:

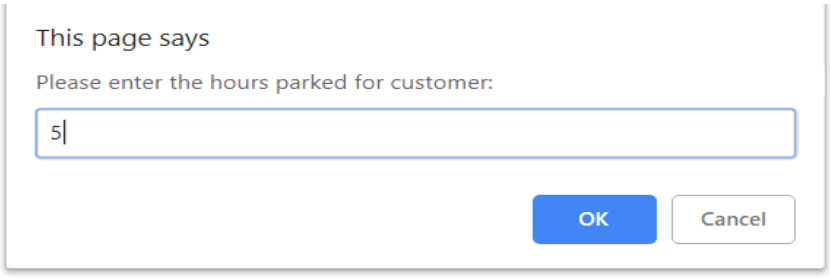
<html>

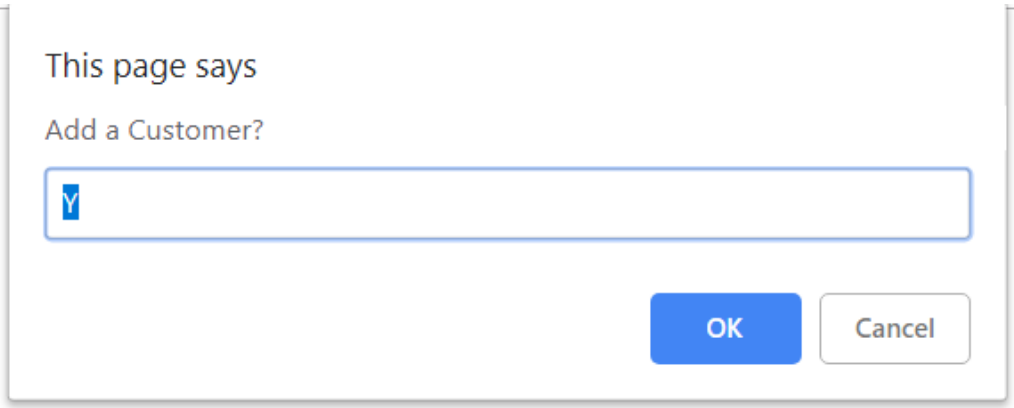
```
<head>
<script type="text/javascript" >
var currentCustomer = 0;
var totalCharges = 0;
function calculate_Charges(hrs)
{
var charges = 2;
if (hrs > 3)
charges += Math.ceil(hrs - 3) * 0.5;
if (charges > 10)
charges = 10;
totalCharges += charges;
return charges;
}
function doCalculation()
{
var hrsParked =
parseFloat(document.getElementById("hrsParked").value);
var charges = calculate_Charges(hrsParked);
document.getElementById("charges").value = charges;
```

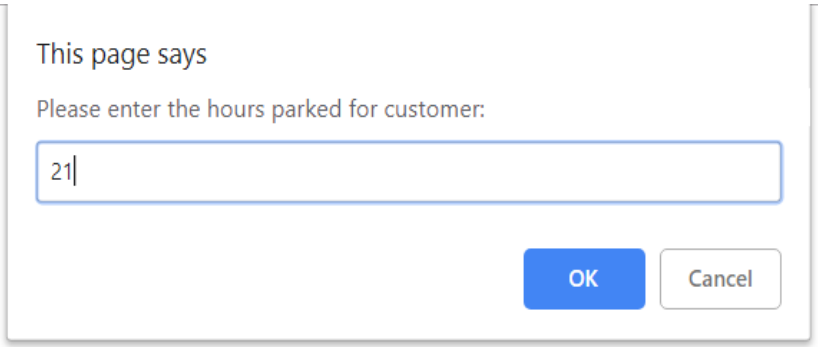
```
}
function calculateChargesForOneCustomer()
{
currentCustomer++;
var hrsParked = parseFloat(prompt("Please enter the hours parked for customer: ", ""));
var charges = calculate_Charges(hrsParked);
document.write("<tr><td>Customer " + currentCustomer + "</td><td align='right'>" + hrsParked + "</td><td align='right'>" + charges.toString() + "</td></tr>");
}
function inputData() // Create a new payroll function
{
document.write("<table><th>Customer</th><th>Hours Parked</th><th>Charges</th>");
var addCustomer = 'Y';
while (addCustomer == "Y")
{
calculateChargesForOneCustomer()
addCustomer = prompt("Add a Customer? ", "Y");
}
```

```
document.write("<tr><td/><td/><td align='right'><b>$" +
totalCharges.toString() + "</b></td></tr>");

document.write("</table>");

}

</script>

</head>

<body onload="inputData();">

<h1> Welcome to the program to calculate the parking garage
charges</h1>

<hr>

<p>

Hours parked:<input type="text" id="hrsParked"><br>

Charges:<input type="text" id="charges"><br>

</p>

<button onclick="doCalculation()">Capture the Charges</button>

</body>

</html>
```

Output:


This page says
Please enter the hours parked for customer:
5
OK
Cancel


This page says
Add a Customer?
Y
OK
Cancel


This page says
Please enter the hours parked for customer:
21
OK
Cancel

Customer	Hours Parked	Charges
Customer 1	5	3
Customer 2	21	10
Customer 3	21	10
		$23

4) Develop a JavaScript program that will determine whether a department-store customer has exceeded the credit limit on a charge account. For each customer, the following facts are available:

a) Account number

b) Balance at the beginning of the month

c) Total of all items charged by this customer this month

d) Total of all credits applied to this customer's account this month

e) Allowed credit limit

The program should input each of these facts from a prompt dialog as an integer, calculate the new balance (= beginning balance + charges – credits), display the new balance and determine whether the new balance exceeds the customer's credit limit. For customers whose credit limit is exceeded, the program should output XHTML text that displays the message “Credit limit exceeded.”

Code:

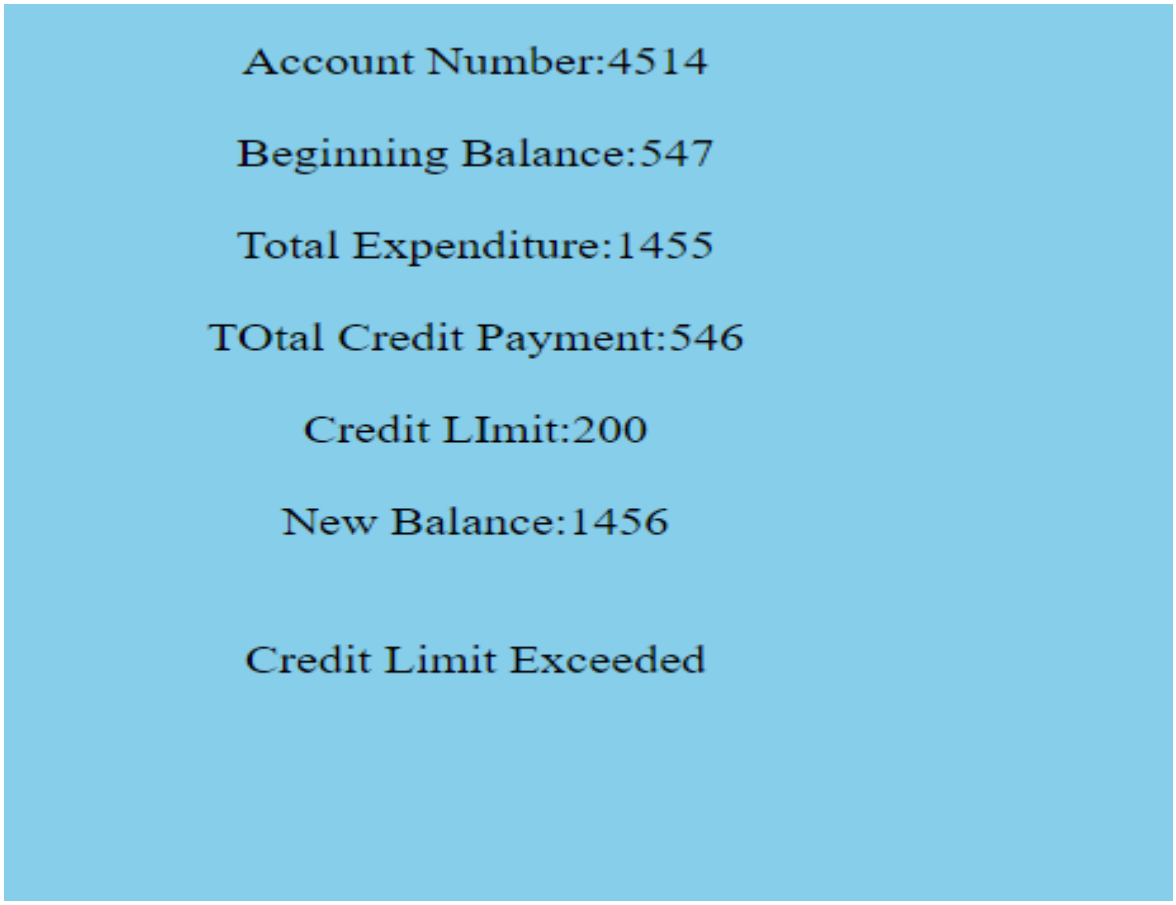
<html>

<head>

```
</head>
<body bgcolor="skyblue">
<div align="center" style="margin:30px;">
<script language="javascript" type="text/javascript">
var account=parseInt(prompt("Enter your account number"));
document.write("Account Number:"+account+"</br>"+"</br>");
var balance=parseInt(prompt("Enter beginning balance"));
document.write("Beginning Balance:"+balance+"</br>"+"</br>");
var item=parseInt(prompt("Enter expenditure"));
document.write("Total Expenditure:"+item+"</br>"+"</br>");
var credits=parseInt(prompt("Enter your no.of credits"));
document.write("TOtal Credit Payment:"+credits+"</br>"+"</br>");
var allowedcredit=parseInt(prompt("Enter the allowed credit limit"));
document.write("Credit LImit:"+allowedcredit+"</br>"+"</br>");
var newbalance=(balance+item-credits);
document.write("New Balance:"+newbalance+"</br>"+"</br>");
if(newbalance>allowedcredit)
{
```

```
document.write("</br>"+"Credit Limit Exceeded");
}
</script>
</div>
</body>
</html>
```

Output:



5) A company wants to transmit data over the telephone, but it is concerned that its phones may be tapped. All of its data is transmitted as four-digit integers. It has asked you to write a program that will encrypt its data so that the data may be transmitted more securely. Your script should read a four-digit integer entered by the user in a prompt dialog and encrypt it as follows: Replace each digit by (the sum of that digit plus 7) modulus 10. Then swap the first digit with the third, and swap the second digit with the fourth. Then output XHTML text that displays the encrypted integer.

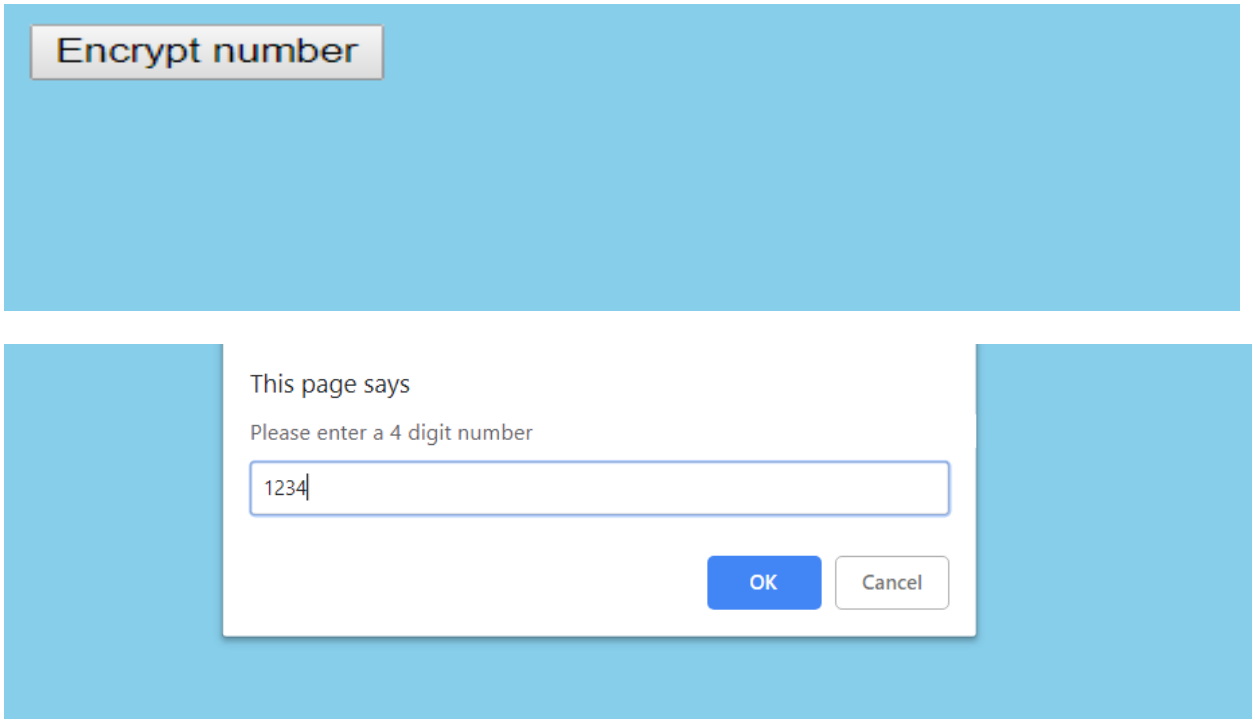
Code:

```
<html>
<head>
<script type="text/javascript">
function EncryptNumber()
{
var digit1;
var digit2;
var digit3;
var digit4;
var inputString;
inputString = prompt("Please enter a 4 digit number");
var number = parseInt(inputString);
digit1 = parseInt((number / 1000 + 7)%10 );
digit2 = parseInt((number % 1000 / 100 + 7)%10 );
digit3 = parseInt((number % 1000 % 100 / 10 + 7)%10);
digit4 = parseInt((number % 1000 % 100 % 10 + 7)%10);
var encryptedNum;
encryptedNum = "The encrypted number of " + number + " " + "is"
+ " " + digit1 + digit2 + digit3 + digit4;
```

```
document.write("<br>" + encryptedNum+"</br>"+"</br>");

var a1=digit1;

var a2=digit2;

var a3=digit3;

var a4=digit4;

var t,t1;

t=a1;

t1=a3;

a1=a2;

a3=a4;

a2=t;

a4=t1;

document.write("</br><b>After</b>   
swapping   the  
encrypted &nbspnumber  
is"+"     "+a4,a3,a2,a1);

}

</script>

</head>

<body bgcolor="skyblue">
```

```
<input type="button" value="Encrypt number"
onclick="EncryptNumber()">

</body>

</html>
```

Output:



The encrypted number of 1234 is 8901

After swapping the encrypted number is 0189