WEEK 7

Lab Exercises:

1) Create an HTML5 document to get an HTML5 element's position on the web page with the help of CSS and JavaScript function.
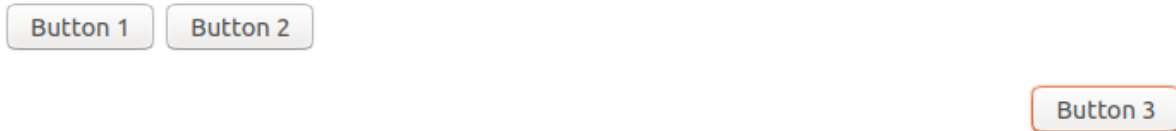
Code:
```html
<!DOCTYPE html>
<html>
<head>
<title>
lab7_1
</title>
<script type="text/javascript">
function getPositionXY(element){ var
rect =
element.getBoundingClientRect();
document.getElementById('button').innerHTML ='X: ' + rect.x + ', ' + 'Y: ' + rect.y
}
</script>
</head>
<body>
<b>Getting Position of an element</b>
<br><br>
<button id='button1' onclick="getPositionXY(this)">
Button 1
</button>
<button id = 'button1' onclick = "getPositionXY(this)">
Button 2
</button>
<br><br>
<center>
<button id = 'button1' onclick = "getPositionXY(this)">
Button 3
</button>
</center>
<p id='button'></p>
</body>
</html>
```
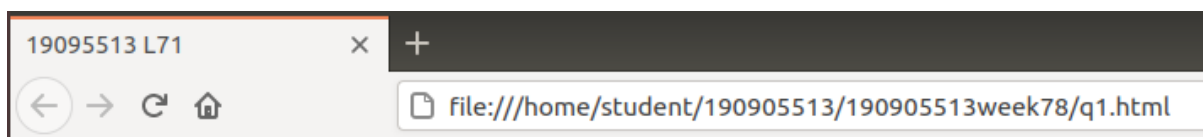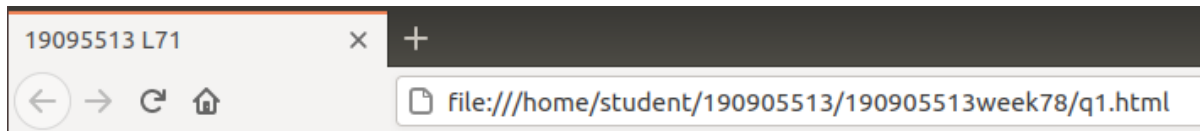
Output:

Getting Position of an element

Button 1   Button 2

Button 3
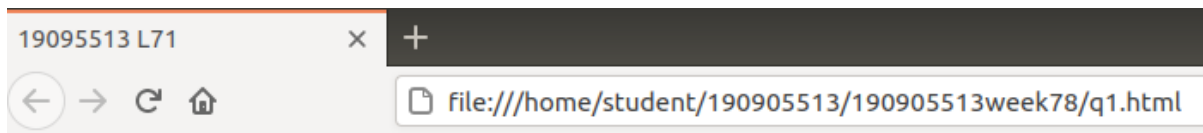
X: 605.4166870117188, Y: 95

Getting Position of an element

Button 1   Button 2

Button 3

X: 101.25, Y: 47

Getting Position of an element

Button 1   Button 2

Button 3

X: 8, Y: 47

2) Write a JavaScript program to "Wish a User" at different hours of a day. Use appropriate dialog boxes for wishing the user. Display the dynamic clock on the web page. Make use of CSS and HTML5 elements for creative and attractive designs

Code:

```
<!DOCTYPE html>
<html>
<head>
<title>Greeting</title>
<script
type="text/javascript">
function greet()
{
document.write("<center><font size=7 style='color: blue;'>");
var
myDate = new Date();
var hr = new Date().getHours();
if (hr >= 0 &&
hr < 12) {
document.write("Good Morning!");
}
else if (hr >= 12 && hr <= 17) {
document.write("Good Afternoon!");
} else {
document.write("Good Evening!");
}
document.write("</font></center>");
document.write('Time is '+myDate.getHours()+':'+myDate.getMinutes()
+':'+myDate.getSeconds());
}
</script>
</head><body>
<button onclick="greet()">Press Here</button>
</body>
</html>
```

Output:

Good Afternoon!

Time is 13:26:26

3) Create an animation of rain using HTML5 canvas element. Apply appropriate usage of CSS and Javascript function to develop the animation.

Code:

```html
<!DOCTYPE html>
<html>
<head>
<title>
Dan 7_3
</title>
</head>
<body onload="rain()">
<script
type="text/javascript"> var
n = 1;
function rain()
{
this.rain_len = 5;
this.rain_ang= Math.PI/3;
var ctx =myCanvas.getContext('2d');
var x = Math.random() * 1800;
var y = Math.random() * 600;
ctx.strokeStyle = "blue";
ctx.beginPath();
ctx.moveTo(x,y);
ctx.lineTo(x-Math.cos(this.rain_ang)*this.rain_len,y-Math.sin(this.rain_ang)*this.rain_len);
ctx.stroke(); n = n + 1;
if (n == 100)
{
ctx.clearRect(0, 0, 1800,600);
n = 1;
}
var t = setTimeout(rain, 15);
}
</script>
<canvas id="myCanvas" width="1200" height="600">
</canvas>
</body>
</html>
```

Output:
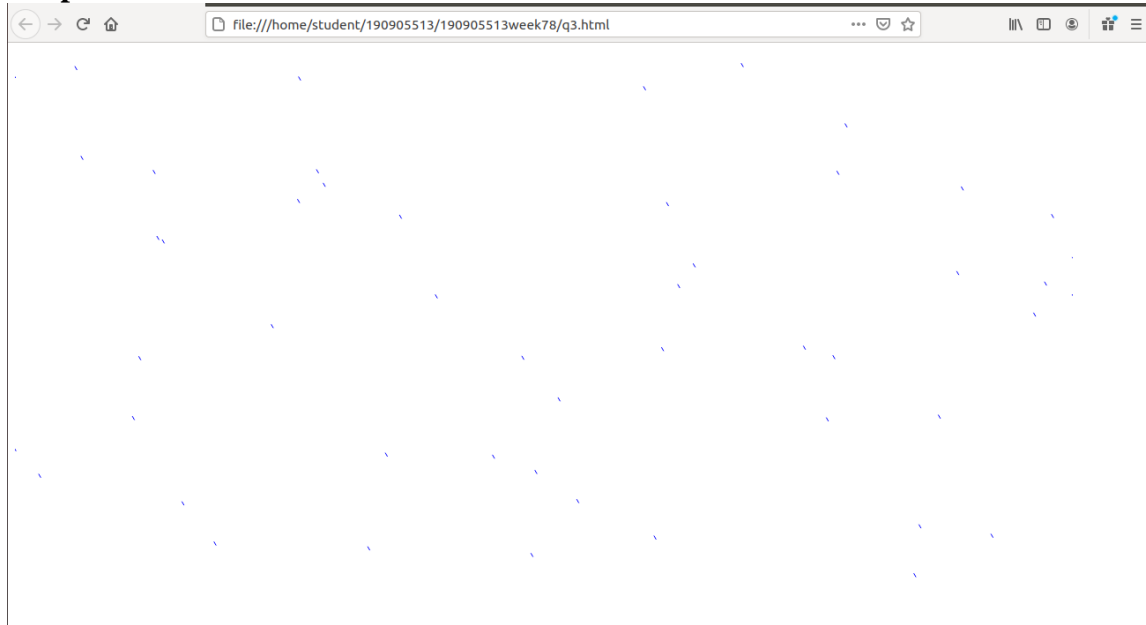
4) Create an HTML 5 document that displays a bouncing ball. Use HTML5 elements, CSS and JavaScript functions.

Code:
```
<!DOCTYPE HTML>
<html>
<head>
<title>
Dan 74</title>
</head>
<body>
<center>
<style>
h1
{
color:blue;
}
canvas
{
background-
color:#061928;
width:
800px;
height: 400px;
}
</style>
<h1>Bouncing Ball</h1>
<canvas>
</canvas>
<script>
```

```
var canvas = document.querySelector("canvas");
canvas.width= window.innerWidth;
canvas.height = window.innerHeight;
var l = canvas.getContext('2d');
var x = Math.floor(Math.random() *innerWidth);
var y = Math.floor(Math.random() * innerHeight);
var vx = Math.floor(Math.random() * 2);
var vy = Math.floor(Math.random() * 4);
var radius = 20;
move();
function move()
{
requestAnimationFrame(move);
l.clearRect(0, 0, innerWidth, innerHeight);
l.beginPath();
l.strokeStyle = "white";
l.arc(x, y, radius, 0, Math.PI * 2, false);
l.stroke();
if (y+ radius > innerHeight)
vy = 0 - vy;
if (y - radius < 0)
vy =0 - vy;
if (radius + x >innerWidth)
vx = 0 - vx;
if (x - radius < 0)
vx = 0 - vx;vx;
+ vy;
x = x +
y = y
}
</script>
</center>
</body>
</html>
```
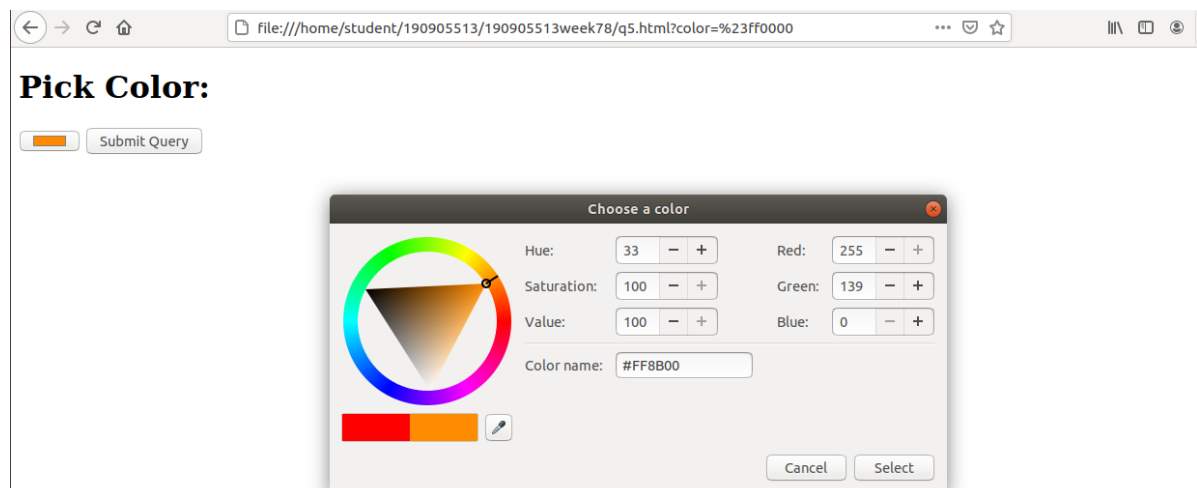
Output:
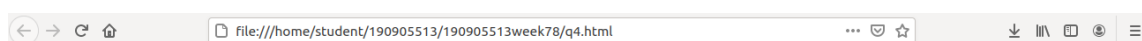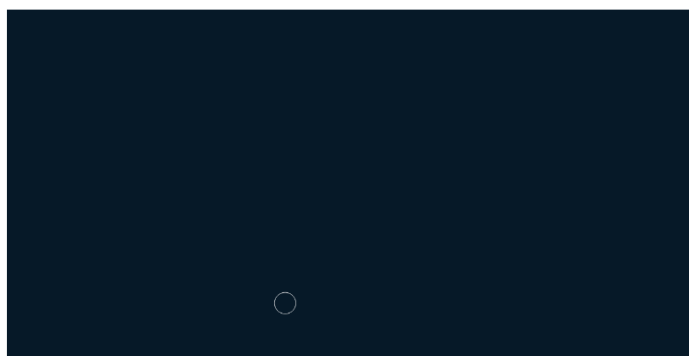
5) Develop a color picker using HTML5 elements, CSS and JavaScript functions.

Code:

```html
<!DOCTYPE html>
<html>
<head>
<title>
Dan 75
</title>
</head>
<body>
<h1>
Pick Color:</h1>
<script>
function
func()
{
alert("color selected");
return false;
}
</script>
<form onsubmit="func()">
<input type="color" name="color" value="#ff0000">
<input type="submit">
</form>
</body>
</html>
```
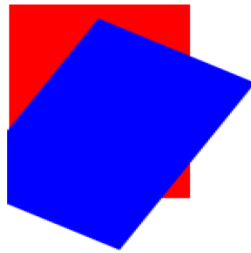
Output:

WEEK 8

Lab Exercises:

1. Write the HTML5 program to display the following using canvas tag. Give different colour for the rectangles.

Code:
```
<!DOCTYPE html>
<html>
<head>
<title>Dan 81</title>
</head>
<body>
<canvas id="myCanvas" width="200" height="300" style="">
<script type="text/javascript"> var r1 =
document.getElementById("myCanvas");
var rect1 = r1.getContext("2d");
rect1.fillStyle = "magenta";
rect1.fillRect(20, 20, 125, 200);
var r2 = document.getElementById("myCanvas");
var rect2 = r2.getContext("2d");
rect2.fillStyle = "black";
rect1.rotate(40 * Math.PI / 180);
rect2.fillRect(100, -20, 125, 200);
</script>
</body>
</html>
```
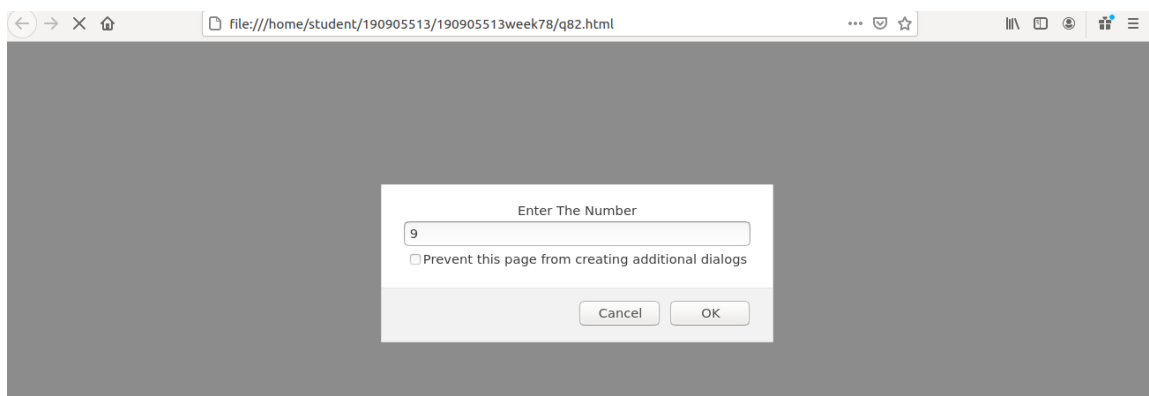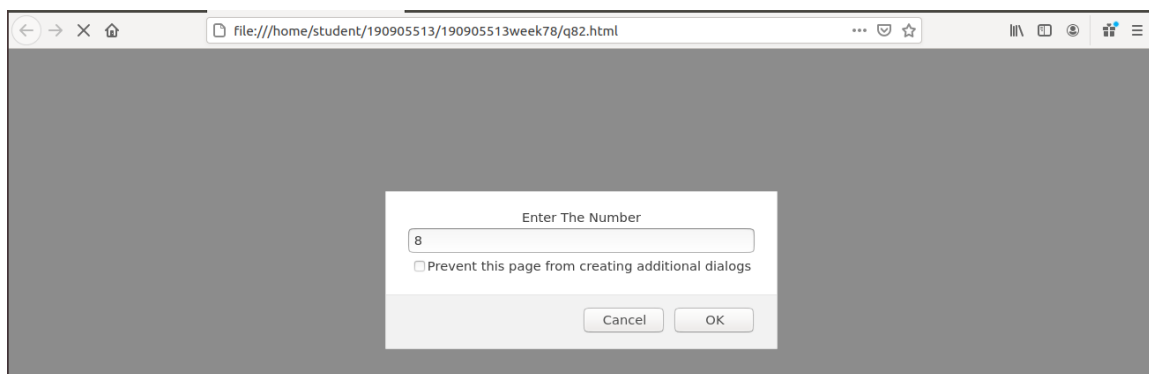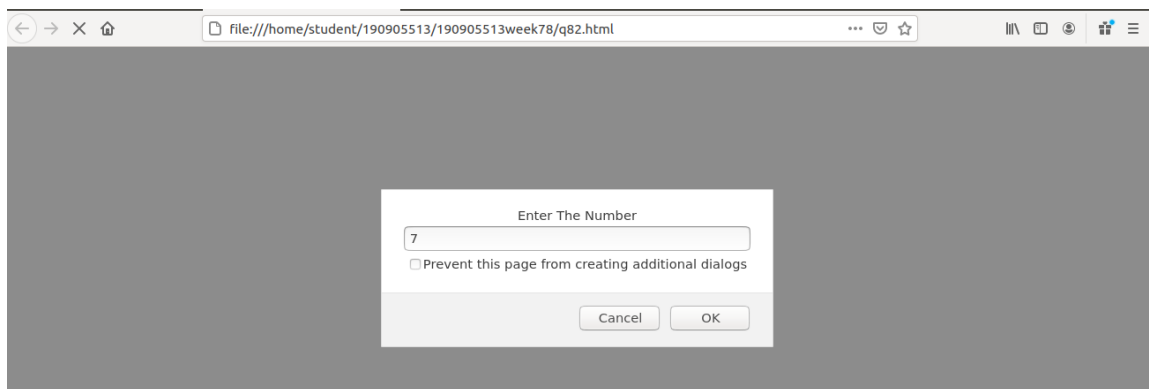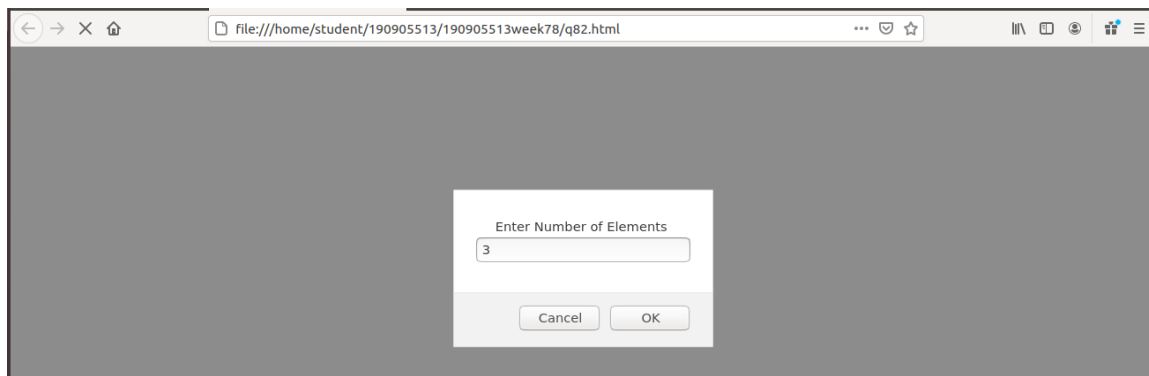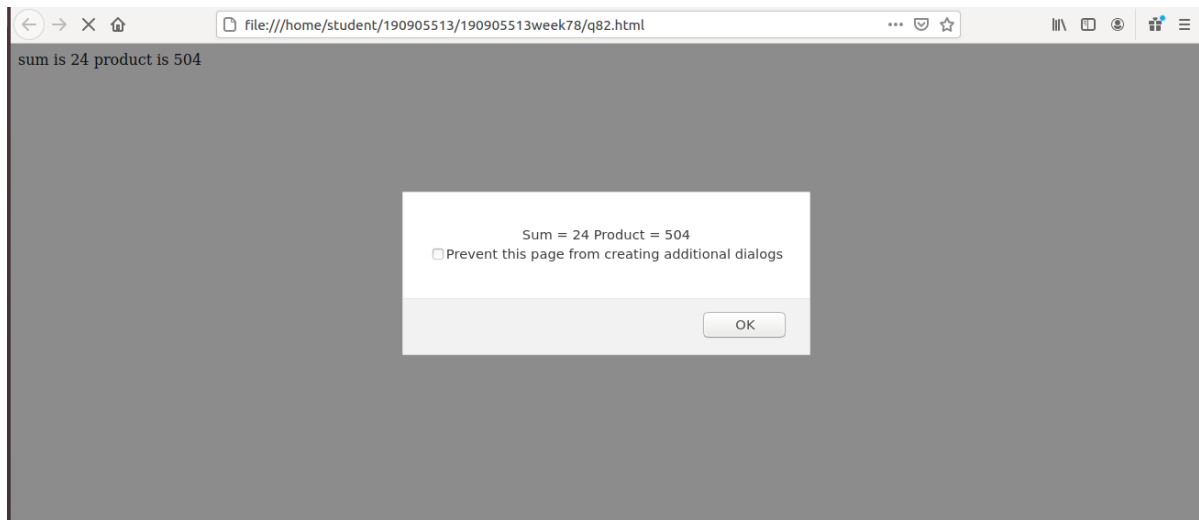
Output:
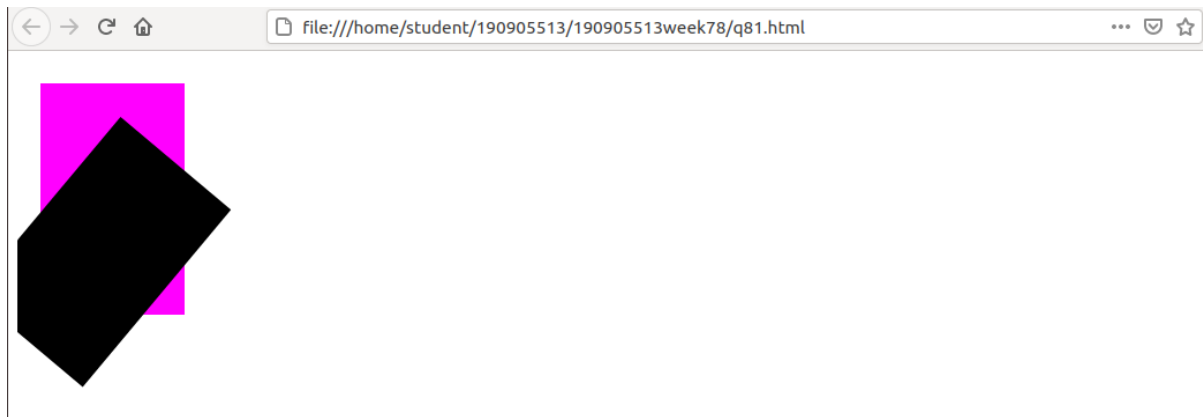
2. Write a JavaScript program to compute the sum and product of an array of integers. Take the array elements from user. (Use alert command)

Code:

```
<!DOCTYPE html>
<html>
<body><div id="sum"></div>
<script> var sum =0;
var num = prompt("Enter Number of Elements ");
var arr = Array();
var n; var
product = 1;
for(var i = 0; i < num; i = i + 1)
{
n = prompt("Enter The Number");
sum += parseInt(n);
product *= n;
}
document.getElementById("sum").innerHTML = "sum is " + sum + " product is " + product;
alert("Sum = " + sum + " Product = " + product);
</script>
</body>
</html>
```

Output:

Sum = 24 Product = 504
☐ Prevent this page from creating additional dialogs

OK

3. Write a JavaScript conditional statement to sort any three numbers. Display an alert box to show the result.

Code:

```
<!DOCTYPE html>
<html>
<head>
<title>Dan 83</title>
</head>
<body>
<script type="text/javascript">
var a = parseInt(prompt("enter no. 1"));
var b = parseInt(prompt("enter no. 2"));
var c = parseInt(prompt("enter no. 3"));
if(a > b) {
if(a > c) {
max = a; }
else {
max = c;
} } else
if( b > a) {
if(b > c) {
max = b;
}
else {
max = c;
}
}alert("max is " + max);
if(a > b && c > b)
{
min = b;
}
else if(b > a && c > a)
{
min = a;
```

```
}
else{min = c;}
alert("min is " + min);
</script>
</body>
</html>
```

Output:
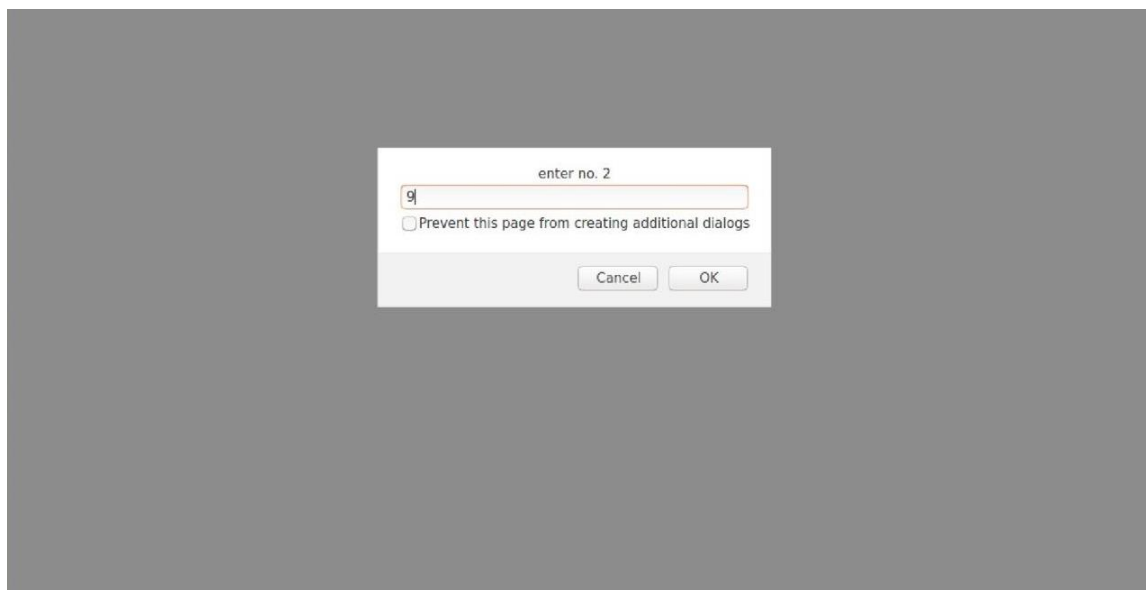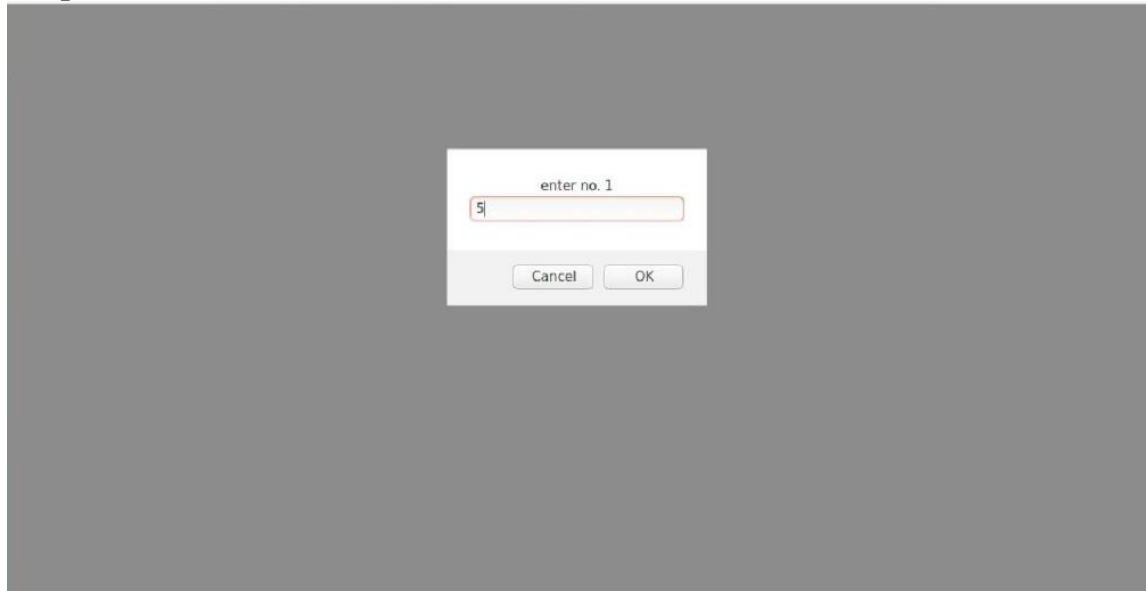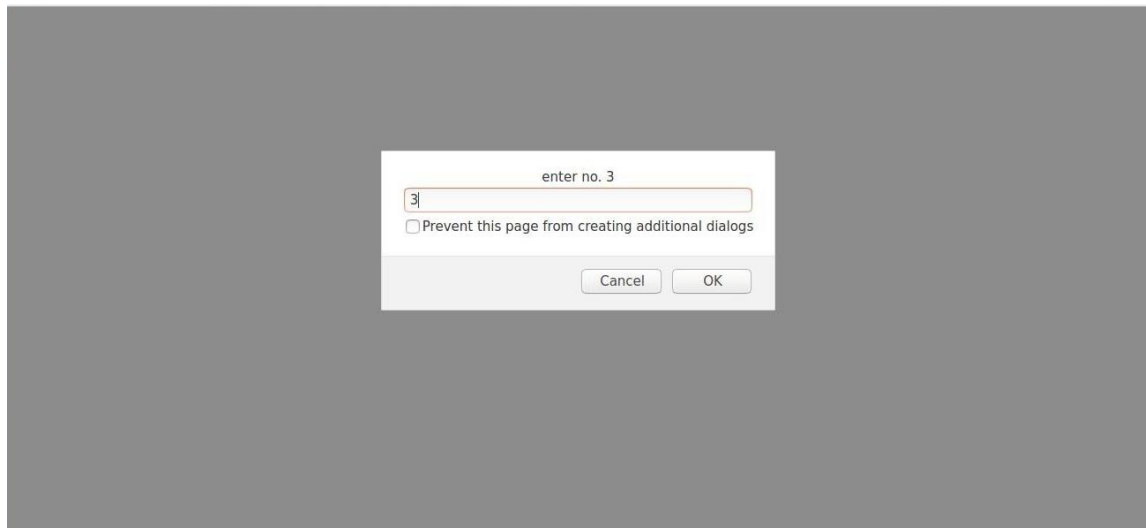
4. Write a java script program to take some input from the user [string, integer and Boolean]. Based on the input, display the type of the input in the 'text box'.

Code:
<!DOCTYPE html>

```html
<html>
<head>
<title>Dan 84</title>
</head>
<body>
<script type="text/javascript">
function check()
{var input = document.getElementById("inp").value;
var output = document.getElementById("out")
if (input.match(/(true)|(false)/g))
output.setAttribute("value" ,"boolean");
else if (input.match(/[A-z]/g))
output.setAttribute("value" ,"string");
else
output.setAttribute("value" , "integer");
}
</script>
<input type="text" name="in" id="inp" placeholder="Enter value to know its data type">
<br>
<input type="text" name="out" id="out">
<br>
<button onclick="check()">
Check
</button>
</body>
</html>
```
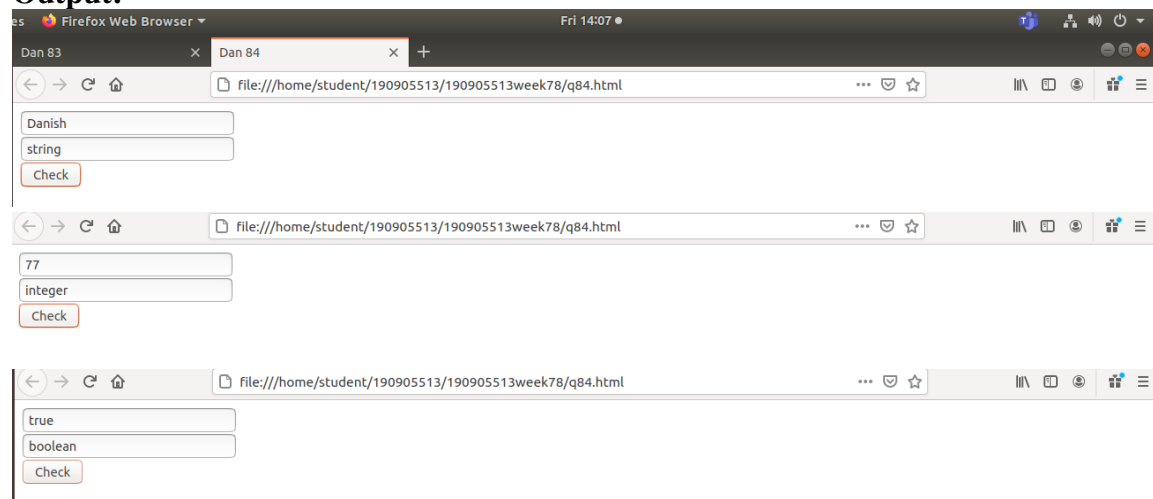
Output:

5. Write the HTML5 program to draw a "smiling face" picture using the canvas tag.

Code:
```html
<!DOCTYPE html>
<html>
<head>
<title>Dan 85</title>
```
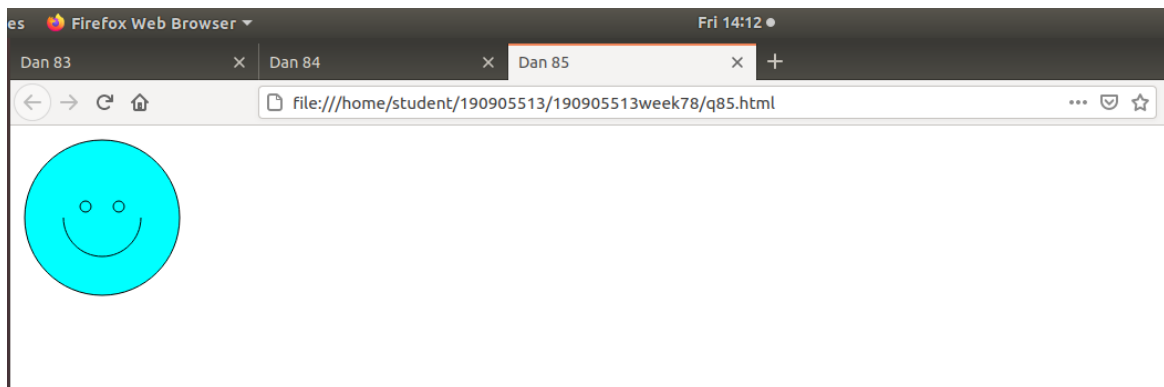
```
</head>
<body>
<canvas id="canvas" width="200" height="200">
</canvas>
<script type="text/javascript">
var canvas =document.getElementById('canvas');
var ctx =canvas.getContext('2d'); ctx.beginPath();
ctx.fillStyle = "aqua";
ctx.arc(75, 75, 70, 0,Math.PI * 2, true);
ctx.fill();
ctx.moveTo(110, 75);
ctx.arc(75, 75,35, 0, Math.PI, false);
ctx.moveTo(65,65);
ctx.arc(60, 65, 5, 0, Math.PI * 2,true);
ctx.moveTo(95, 65);
ctx.arc(90,65, 5, 0, Math.PI * 2, true);
ctx.stroke();
</script>
</body>
</html>
```

Output:

6. Write the JavaScript program to add items into the array and delete items from array using two methods.

Code:
```
<!DOCTYPE html> <html>
<body>
<div id="sum"></div>
<button onclick="Insert()">Insert</button>
<button onclick="Delete()">Delete</button>
<button onclick="Display()">Display</button>
<div id="disp"></div>
<script>
var sum = 0;
var arr = Array();
var n; var i = 0;
function Insert()
{
var x = prompt("enter number");
arr[i++] = x;
}
function Delete()
{
var ele = prompt("enter element to be deleted");
for(var j = 0; j < arr.length; j = j+1)
{
if(ele == arr[j])
{
arr[j] = " ";
alert("found at location " + (j+1));
break;
}
}
}
function Display()
{
for(var j = 0; j < arr.length; j = j+1)
{
document.write(arr[j]);
console.log(arr[j]);
}
}
</script>
</body>
</html>
```

Output:
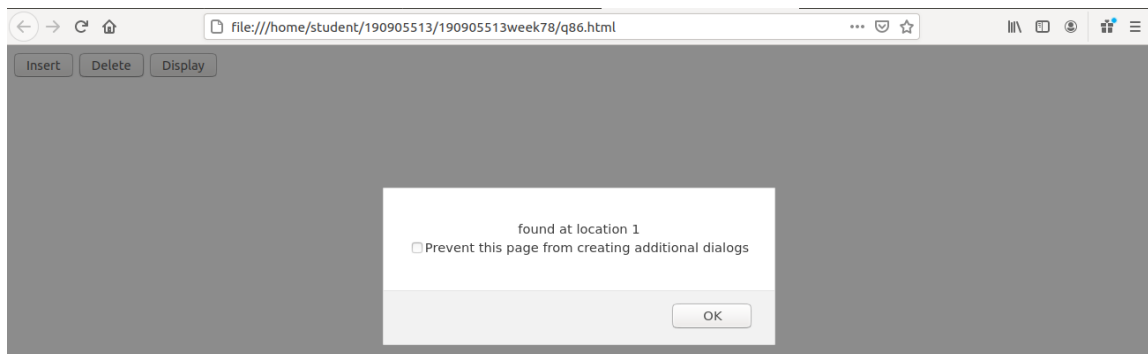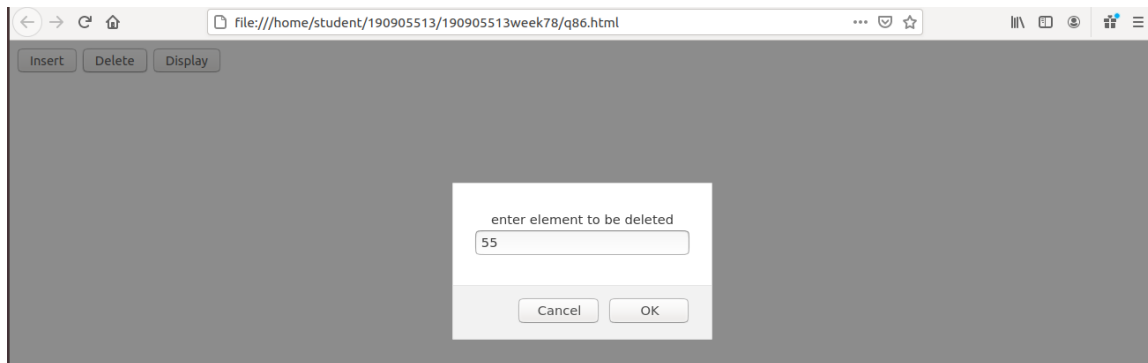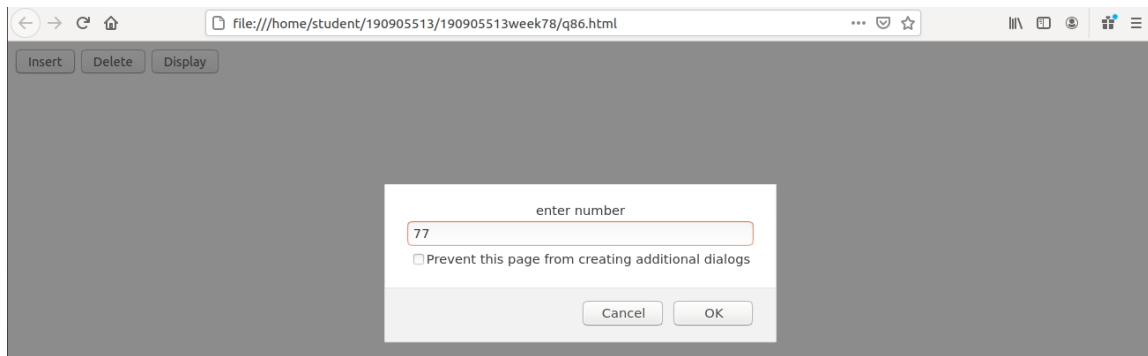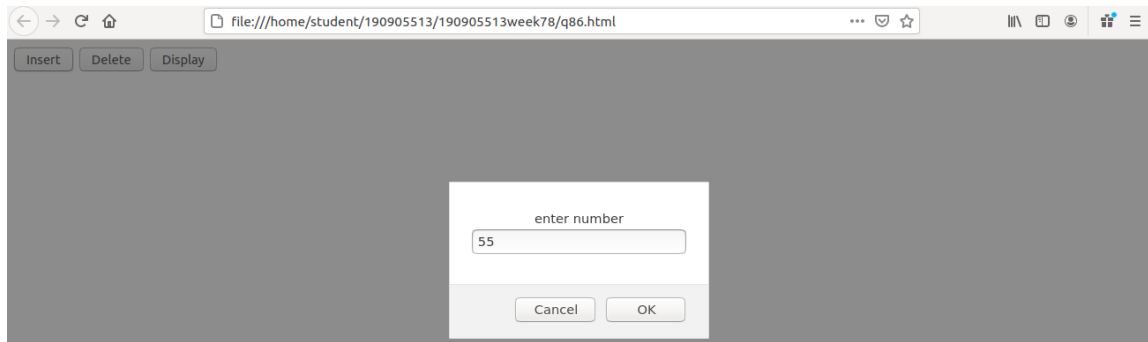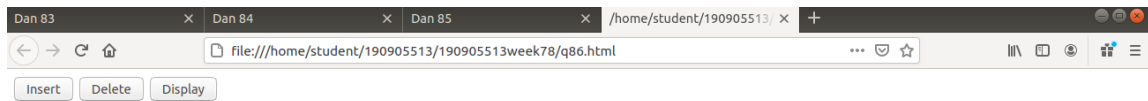
//After Clicking on Display

7. Write the java script program to display the grade [A, B,C,D] based on the marks entered by student(take the input into text boxes). Enter the mark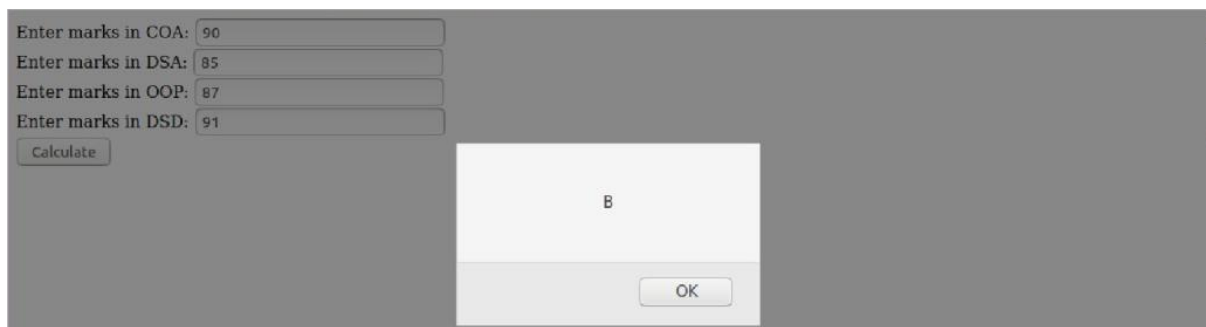s of 4 subjects and calculate the average(using button). If the avg>90 then A, avg>80 then B, if avg>70 then C, if avg>60 then D.

Code:
```html
<!DOCTYPE html>
<html>
<head>
<title>Dan 87</title>
</head>
<body>
<script type="text/javascript">
function calc()
{ var sum=0;
for (var i = 1; i <= 4; i++)
{ sum += parseInt(document.getElementById('m'+i).value);
} var avg = sum/4; var grade = "";
if (avg <60) grade = 'Fail';
else if (avg < 70 && avg > 60) grade = 'D';
else if (avg < 80 && avg > 70) grade = 'C';
else if (avg < 90 && avg > 80) grade = 'B';
else grade = 'A';
alert(Grade);}
</script>
Enter marks in COA: <input type="text" name="m1" id="m1"><br>
Enter marks in DSA: <input type="text" name="m2" id="m2"><br>
Enter marks in OOP: <input type="text" name="m3" id="m3"><br>
Enter marks in DSD: <input type="text" name="m4" id="m4"><br>
<button onclick="calc()">Calculate</button>
</body>
</html>
```
Output:

Enter marks in COA: 90
Enter marks in DSA: 85
Enter marks in OOP: 87
Enter marks in DSD: 91
Calculate

B

OK

8.Write the JavaScript program to show the below output.
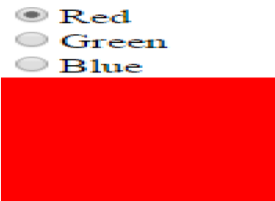
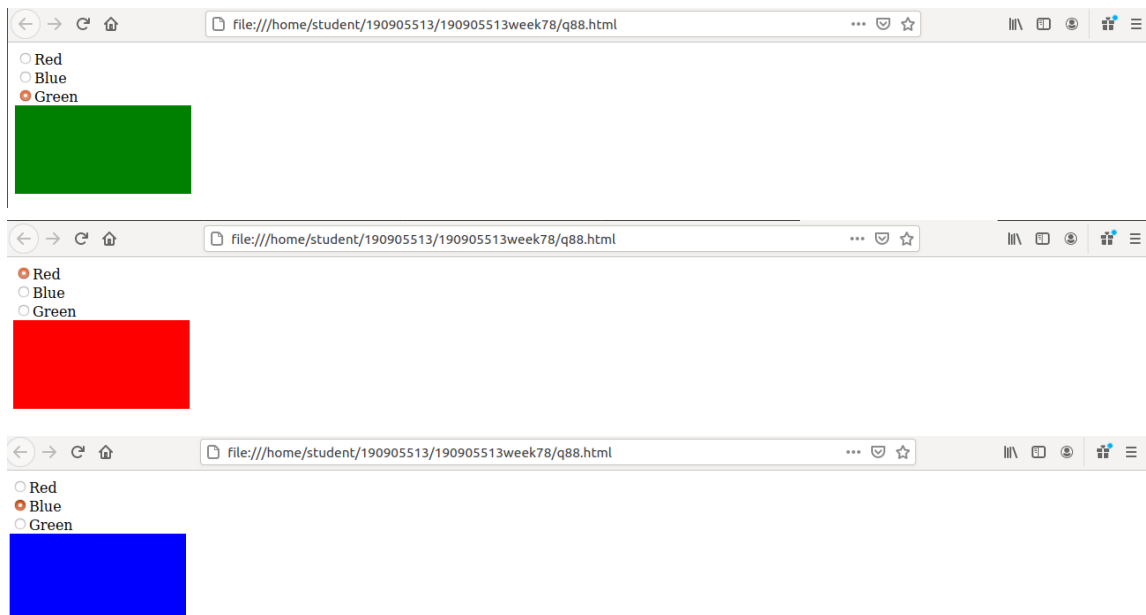**Code:**
```
<!DOCTYPE html>
<html>
<head>
<title>Dan 88</title>
</head>
<body>
<script type="text/javascript">
function change()
{ var canv = document.getElementById('myCanvas'); if
(document.getElementById('red').checked) canv.style['background-color'] = "red";
else if (document.getElementById('blue').checked) canv.style['background-color'] =
"blue"; else if (document.getElementById('green').checked) canv.style['background-color'] =
"green";
}
</script>
<input type="radio" name="color" value="red" onchange="change()" id="red">Red <br>
<input type="radio" name="color" value="blue" onchange="change()" id="blue">Blue <br>
<input type="radio" name="color" value="green" onchange="change()" id="green">Green
<br>
<canvas id="myCanvas" width="200" height="100"></canvas>
</body>
</html>
```

Output:

9. Write the HTML5 program to display following with validation to each field.

Name [take only capital letters]: [   ]
Password[show stars]:   [   ]
Phone Number[10 digits only]:   [   ]

Code:
```
<!DOCTYPE html>
<html>
<head>
<title>Lab8_9</title>
</head>
<body>
<script type="text/javascript"> function check_name() { var name =
document.getElementById('name').value;
if (name.match(/[a-z]/g)) {
document.getElementById('namesp').style.color = "red";
document.getElementById('namesp').innerHTML = ' '; ✗
}
else { document.getElementById('namesp').style.color = "green";
document.getElementById('namesp').innerHTML = ' ✓'; }
}
function check_number() { var phone =
document.getElementById('pnum').value; if (phone.length
!= 10) {
document.getElementById('psp').style.color ="red";
document.getElementById('psp').innerHTML = ' '; ✗
}
else { document.getElementById('psp').style.color = "green";
document.getElementById('psp').innerHTML = ' '; ✓ }}
</script>
Name [Only CAPS]: <input type="text" name="name" onkeyup="check_name()"
id="name"><span id="namesp"></span><br> Password: <input
type="password" name="pswd"><br>
Phone Number: <input type="text" name="pnum" onkeyup="check_number()"
id="pnum"><span id="psp"></span>
</body>
</html>
```

Output:

//Unable to generate right output.

10. Write a JavaScript program to perform an online quiz.

Code:

```
<!DOCTYPE html><html>
<head>
<title>Dan 810</title>
</head>
<body>
<h1>Online Quiz</h1>
<script type="text/javascript"> function calculate_score() { var score = 0; if
(document.getElementById("q11").checked) score += 1; if
(document.getElementById("q23").checked) score += 1; if
(document.getElementById("q32").checked) score += 1; if
(document.getElementById("q42").checked) score += 1;
document.getElementById('Score').innerHTML = " "+score; }
</script>
Who was Iron Marshal of France ? <br>
<input type="radio" name="q1" id="q11">Davout<br>
<input type="radio" name="q1" id="q12">Suchet<br>
<input type="radio" name="q1" id="q13">Lannes<br>
<br>
When did Napoleon win Battle of Austerlitz ?<br>
<input type="radio" name="q2" id="q21">1812<br>
<input type="radio" name="q2" id="q22">1807<br>
<input type="radio" name="q2" id="q23">1805<br>
<br>
Which coup brought Napoleon to power?<br>
<input type="radio" name="q3" id="q31">Paris Coup<br>
<input type="radio" name="q3" id="q32">Coup of 18 Brummaire<br>
<input type="radio" name="q3" id="q33">Robbespiere Coup<br>
<br>
Napoleon's retreat from which country became a Poetic Legend?<br>
<input type="radio" name="q4" id="q41">Spain<br>
<input type="radio" name="q4" id="q42">Russia<br>
<input type="radio" name="q4" id="q43">Prussia<br>
<br>
<button onclick="calculate_score()">Submit</button>
<br><hr>
<b>Score:</b><span id="Score"></span>
</body>
</html>
```

Output:
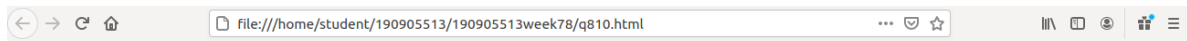
Online Quiz

Who was Iron Marshal of France ?
- ⦿ Davout
- ○ Suchet
- ○ Lannes

When did Napoleon win Battle of Austerlitz ?
- ○ 1812
- ○ 1807
- ⦿ 1805

Which coup brought Napoleon to power?
- ○ Paris Coup
- ○ Coup of 18 Brummaire
- ⦿ Robbespiere Coup

Napoleon's retreat from which country became a Poetic Legend?
- ○ Spain
- ⦿ Russia
- ○ Prussia

Submit

Score: 3