**Course Code: CSE3150**

**Course Title: Front End Full Stack Development**

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| P5-A | **Basic JavaScript Exercises** |

**Problem Statement:**

Ravi is trying to write a program in JavaScript to calculate the Fibonacci series of a given number and the square of a given number series as the assignment is given by class teacher, help Ravi to develop and demonstrate a HTML file that includes JavaScript script for the following problems:

a) Input: A number n obtained using prompt

Output: The first n Fibonacci numbers

b) Input: A number n obtained using prompt

Output: A table of numbers from 1 to n and their squares using **alert**

1. *<html>*

*<head>*

*<title>Fibonacci Series</title>*

*</head>*

*<body>*

*<script type="text/javascript">*

*var fib1=0,fib2=1,fib=0;*

*var num=prompt("Enter a number : \n", "");*

*if(num != null && num > 0 )*

*{*

*document.write("<h1>The first "+num+" numbers in the fibonacci series </h1>");*

*if(num==1)*

*document.write("<h2> "+ fib1 + "</h2>");*

*else*

*{*

*document.write("<h2>" + fib1 + "</h2>");*

*document.write("<h2>" + fib2 + "</h2>");*

*}*

*for(i=3;i<=num; i++)*

*{*

*fib= fib1 + fib2;*

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

*fib1=fib2;*

*fib2=fib;*

*}*

*}*

*else*

*alert("Invalid Input");*

*</script>*

*</body>*

*</html>*

b) *<!DOCTYPE html>*

*<html>*

*<head>*

*<title>Number and its squares</title>*

*</head>*

*<body>*

*<script type="text/javascript">*

*var num = prompt("Enter a number : \n", "");*

*var msgstr;*

*if(num > 0 && num !=null){*

*msgstr="Number and its Squares are \n";*

*for(i=1;i <= num; i++)*

*{*

*msgstr = msgstr + i + " ^ 2 = " + i\*i + "\n";*

*}*

*alert(msgstr);*

*}*

*else*

*alert("Invalid Input");*

*</script>*

*</body>*

*</html>*

|  |  |
| --- | --- |
| P5-B | **Creating a Canvas Drawing Application with HTML5 and JavaScript** |

**Problem Statement:**

The problem statement: To create a canvas drawing application that allows users to draw on the canvas by clicking and dragging the mouse. To achieve this, use HTML5 code that includes a canvas element with an event attribute that listens for mousedown, mousemove, and mouseup events. These events shoud trigger JavaScript functions that draw lines on the canvas based on the user's mouse movements. The canvas element can be styled using CSS to have a black border. Use article, section, attributes to enhance the web page.

***Solution***

<!DOCTYPE html>

<html>

<head>

<title>Canvas Example</title>

<style>

canvas {

border: 1px solid black;

}

</style>

</head>

<body>

<header>

<h1>Canvas Example</h1>

<p>Draw on the canvas by clicking and dragging the mouse</p>

</header>

<article>

<h2>Canvas</h2>

<canvas id="myCanvas" width="400" height="400" onmousedown="startDrawing(event)" onmousemove="drawLine(event)" onmouseup="stopDrawing(event)"></canvas>

</article>

<script>

var canvas = document.getElementById("myCanvas");

var ctx = canvas.getContext("2d");

var isDrawing = false;

function startDrawing(event) {

isDrawing = true;

var x = event.clientX - canvas.offsetLeft;

var y = event.clientY - canvas.offsetTop;

ctx.beginPath();

ctx.moveTo(x, y);

}

function drawLine(event) {

if (isDrawing) {

var x = event.clientX - canvas.offsetLeft;

var y = event.clientY - canvas.offsetTop;

ctx.lineTo(x, y);

ctx.stroke();

}

}

function stopDrawing(event) {

isDrawing = false;

}

</script>

</body> </html>

Output:



