

## **Assignment 3.**

Michael Masika Kasili

R1911D9689060

Programming and Scripting

Mr. Mahmoud Elbattah

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1. These are the details for a function that prompts a user for a colour then links the colour within the existing webpage. When the user first gets to the website, a message prompt will appear immediately requesting for the user to type a colour or in some cases select a colour from a drop down list. Once the user selects the colour, the colour will be chosen from the Javascript default colour pool and then the background of the webpage will change to the selected color. In case there is a typing error, an alert box should appear showing an input error and will request for a valid input.

The Style property in JavaScript can change the <body> element or any other element dynamically. The document object model (DOM) property can be manipulated by calling it inside the <script> tag. The property that will be manipulated in the above code is `'document.body.style.background'`. Any HTML element that supports the style attribute also has a style property.

```
//Question 2
<!DOCTYPE html>
<html>

<head>
  <script type="text/javascript">
    //This function can be used to input User first and second names then
    output. More functionality like object constructor can be added to store this
    data
    function display() { //Function connected to the button is called when
    ever the user clicks the mouse
      document.getElementById('display').innerHTML =
        document.getElementById("user_input1").value; //User input in
    the first form will be output
      document.getElementById('display1').innerHTML =
        document.getElementById("user_input2").value; //User input in
    the second form will be output
    }

    function highlight(x) { //This will highlight each field yellow when c
    licked
      x.style.background = "yellow";
    }
    //If data is selected from form fill data instead of typed data, highl
    ighter will only work when any keyboard key is pressed
    function regular(x) { //This will return form to regular color while o
    ther form is clicked
      x.style.background = "white";
    }
  }
</script>
</head>
<body>
  <div>
    <input type="text" value="First Name" />
    <input type="text" value="Last Name" />
    <input type="button" value="Display" />
  </div>
  <div>
    <input type="text" value="First Name" />
    <input type="text" value="Last Name" />
    <input type="button" value="Display" />
  </div>
</body>
</html>
```

```

    }
  </script>
</head>

<body>
  <!--Add id to input tag-->
  <h1>Question 2</h1>
  <form name="exam"><!--
form validation can be added for different types of data-->
    <input type="text" name="first" id="user_input1" onmousedown="highlight(this)" onblur="regular(this)">
    <input type="text" name="last" id="user_input2" onmousedown="highlight(this)" onblur="regular(this)">
    <input type="button" value="click me" onClick="display()">
  </form>
  <p><span id='display'></span> <span id='display1'></span></p>
</body>

</html>

```

```

//Question 3
<!DOCTYPE html>
<html>

<head lang="en">
  <meta charset="UTF-8">
  <title>Question 3</title>

</head>

<body>
  <h1>Question 3</h1>
  <p id="demo"></p>

  <script>
    //These are two methods for
writing this code, since it is the same string
    //Method 1
    //An Array constructor can be used to make the list
    for (let i = 1; i <= 50; i++) {
      const item = 'item' + [i]
      const arr = Array.from({
        length: 1
      }, () => item)
      console.log('arr', arr) //Output on console
    }
  </script>

```

```

        //'document.write(arr + "<br/>")'. The output will can be orde
red in a list with list tags
    }
    //For loop is an easier way to generate the item list since it's the s
ame string
    //But for different strings, the object constructor function should be
used
    //Also the .push or .unshift methods are used to add new items to an a
rray
    //Method 2
    let text = "<ul>";

    for (let i = 1; i <= 50; i++) { //Second 'for' loop is to explain and
compute second method
        text += "<li>" + "Item" + [i] + "</li>";
    }
    text += "</ul>";
    //This output will be ordered in a list on webpage
    document.getElementById("demo").innerHTML = text;
</script>

</body>

</html>

```

```

//Question 4
<!DOCTYPE html>
<html>

<head lang="en">
    <meta charset="UTF-8">
    <title>Question 4</title>

</head>

<body>
    <h1>Question 4</h1>

    <p id="demo"></p>

    <script>
        function trueorfalse() { //Function name
            var arr = {};

            //will ask user to type in number 50 times//
            for (i = 1; i < 5; i++) {

```

```

        arr[i] = Number(prompt("Enter number " + (Number(i)))); //prompt will ask for inputs
    }
    //parseFloat will return numbers. NaN will appear for other inputs
    var a = parseFloat(arr[1])
    var b = parseFloat(arr[2])
    var c = parseFloat(arr[3])
    var d = parseFloat(arr[4])
    document.getElementById("demo").innerHTML = //This will display inputs after computation
        "Input a is: " + a + "<br/>" +
        "Input b is: " + b + "<br/>" +
        "Input c is: " + c + "<br/>" +
        "Input d is: " + d;
    if (a * b < c * d) { //If evaluates the condition. If it is true, an alert box will pop up with True
        alert(true)
    } else { //or else alert box will be false
        alert(false)
    }

}
</script>
<button onclick="trueorfalse()">Compute</button>
<!--This will call function-->
</body>
</html>

```

```

//Question 5
<!DOCTYPE html>
<html>

<head lang="en">
    <meta charset="UTF-8">
    <title>Question 5</title>
    <script language="JavaScript">
        function checkRequired() { //User input will be validated using this function,
            //first to check if the input is empty then check if the 'space key' was used to fill the fields using 'trim'
            let a = document.forms["RegistrationForm"]["firstName"].value;
            if (a.trim() == "" || a.length < 2) { //'a.length' checks length of input, it can be adjusted accordingly
                alert("Missing First Name"); //If a form field (fname) is empty, either 'Alert messages' or
            }
        }
    }

```

```

        //the 'required' attribute prevents this form from being submitted
        return false;
    }
    let b = document.forms["RegistrationForm"]["lastName"].value;
    if (b.trim() == "" || b.length < 2) {
        alert("Missing Last Name"); //It is not necessary to write all this code, it is just for explaining purposes
        return false;
    }
    let c = document.forms["RegistrationForm"]["dob"].value;
    if (c.trim() == "" || c.length < 2) { //The 'required' attribute checks for proper date format
        alert("Missing Date of Birth");
        return false;
    }
    let d = document.forms["RegistrationForm"]["address"].value;
    if (d.trim() == "" || d.length < 5) {
        alert("Missing Physical Address");
        return false;
    }
    let e = document.forms["RegistrationForm"]["town"].value;
    if (e.trim() == "" || e.length < 2) {
        alert("Missing Town Name");
        return false;
    }
    let f = document.forms["RegistrationForm"]["county"].value;
    if (f.trim() == "" || f.length < 2) {
        alert("Missing County Name");
        return false;
    }
    let g = document.forms["RegistrationForm"]["postcode"].value;
    if (g.trim() == "" || g.length < 2) {
        alert("Missing Postal Code");
        return false;
    }
    let h = document.forms["RegistrationForm"]["email"].value;
    if (h.trim() == "" || h.length < 2) { //The 'required' attribute checks for email validity. It checks for '@' or '.com'
        alert("Missing Email Address");
        return false;
    } else {
        true;
    }
}
</script>

```

```

</head>

<body>
  <h1>Question 5</h1>
  <form id="user-
form" action="#" name=RegistrationForm method="post" onsubmit="return checkReq
uired()">
    <table>
      <tr>
        <td>*Title:</td>
        <td><select name="title">
          <option selected>Mr</option>
          <option>Mrs</option>
          <option>Ms</option>
          <option>Miss</option>
          <option>Dr</option>
          <option>Prof</option>
        </select></td>
      </tr>
      <tr>
        <td>First name:</td>
        <td><input type="text" id="firstname" name="firstName" size="20" maxlength="20" placeholder="First Name" required></td>
      </tr>
      <tr>
        <td>Last name:</td>
        <td><input type="text" id="lastname" name="lastName" size="20" maxlength="20" placeholder="Last Name" required></td>
      </tr>
      <tr>
        <td>Date of Birth:</td>
        <td><input type="date" id="dob" name="dob" size="20" maxlength="20" placeholder="Date of Birth" required></td>
      </tr>
      <tr>
        <td>Address:</td>
        <td><textarea id="address" name="address" row="4" , cols="40" placeholder="Physical Address" required></textarea></td>
      </tr>
      <tr>
        <td>Town:</td>
        <td><input type="text" id="town" name="town" size="30" maxlength="40" placeholder="Town" required></td>
      </tr>
      <tr>
        <td>County:</td>

```

```

        <td><input type="text" id="county" name="county" size="30" max
length="40" placeholder="County" required></td>
    </tr>
    <tr>
        <td>Postcode:</td>
        <td><input type="text" id="postcode" name="postcode" size="20"
maxlength="10" placeholder="Postcode" required></td>
    </tr>
    <tr>
        <td>Email:</td>
        <td><input type="email" id="email" name="email" size="30" maxl
ength="64" placeholder="Email Address" required></td>
    </tr>
</table>
<div>

    <input type="submit" value="Submit" onClick="checkRequired()">
</div>
</form>
</body>
</html>

```