

## JavaScript 1 – Assignment

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Batch – Batch 2 (Bangalore)

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**Question 1: Write a JavaScript program to find all distinct prime factors of a given integer.**

Code:

```
function primeFactor(num) {  
    function isPrime(num) {  
        for (let i = 2; i <= Math.sqrt(num); i++) {  
            if (num % i === 0) {  
                return false;  
            }  
        }  
        return true;  
    }  
    const res = []  
    for (let i = 2; i <= num; i++) {  
        while (isPrime(i) && num % i === 0) {  
            if (!res.includes(i)) {  
                res.push(i);  
            }  
            num /= i;  
        }  
    }  
    return res;  
}  
  
console.log(primeFactor(105));
```

Output:

```
Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.  
  
Try the new cross-platform PowerShell https://aka.ms/powershell  
  
PS C:\Users\aagam\Desktop\SAU-2021-Jan-Batch-Bangalore\JS - Morning> node question1.js  
[ 3, 5, 7 ]  
PS C:\Users\aagam\Desktop\SAU-2021-Jan-Batch-Bangalore\JS - Morning> █
```

**Question 2:** Write a JavaScript program to change the capitalization (case) of all letters in a given string.

Code:

```
function capitalization(str) {
    let string = "";
    function isUpperCase(str) {
        return str === str.toUpperCase();
    }
    function isLowerCase(str) {
        return str === str.toLowerCase();
    }
    for (let i = 0; i < str.length; i++) {
        if (isUpperCase(str[i])) {
            string += str[i].toLowerCase();
        }
        if (isLowerCase(str[i])) {
            string += str[i].toUpperCase();
        }
    }
    return string;
}

console.log(capitalization('Aagam'));
```

Output:

```
PS C:\Users\aagam\Desktop\SAU-2021-Jan-Batch-Bangalore\JS - Morning> node question2.js
aAGAM
PS C:\Users\aagam\Desktop\SAU-2021-Jan-Batch-Bangalore\JS - Morning>
```

**Question 3:** Write a JavaScript program to check whether all the digits in a given number are the same or not.

Code:

```
function allDigits(num) {
    var dig = num % 10;
    while (num != 0) {
        var digit = num % 10;
        if (digit != dig) {
            return false;
        }
        num = parseInt(num / 10);
    }
    return true;
}

console.log(allDigits(1211));
```

Output:

```
PS C:\Users\aagam\Desktop\SAU-2021-Jan-Batch-Bangalore\JS - Morning> node question3.js
false
PS C:\Users\aagam\Desktop\SAU-2021-Jan-Batch-Bangalore\JS - Morning> █
```

**Question 4 :** Write a JavaScript program to compute the sum of all digits that occur in a given string

Code:

```
function sumOfDigits(num) {
    num = parseInt(num);
    var sum = 0;
    while (num != 0) {
        var digit = num % 10;
        //console.log('Digit ' + digit);
        sum = sum + digit;
        //console.log('Sum ' + sum);
        num = parseInt(num / 10);
    }
    return sum;
}

console.log(sumOfDigits("123"));
```

Output:

```
PS C:\Users\aagam\Desktop\SAU-2021-Jan-Batch-Bangalore\JS - Morning> node question4.js
6
PS C:\Users\aagam\Desktop\SAU-2021-Jan-Batch-Bangalore\JS - Morning> █
```

**Question 5**

Create an HTML Form with different kind of controls.

-Submit button should validate all the controls.

-Input fields should be required.

-Radio should be selected.

-Dropdown should be selected.

-Email should be validated.

-If all Form controls are valid at the time of submission,

then it should print the value of controls in Console window in the following way:

```
{ "FirstName" : ".....", "LastName" : ".....", .... }
```

Code :

HTML Code

```
<body>
  <h2>Javascript Assignment 5 - Form Manipulation</h2>
  <form name="myForm" method="POST" onsubmit="validateForm(event)">
    <label for="fname">First name:</label><br>
    <input type="text" id="fname" name="fname"><br><br>

    <label for="lname">Last name:</label><br>
    <input type="text" id="lname" name="lname"><br><br>

    <lable for="email">Email Id:</lable><br>
    <input type="text" id="email" name="email"><br><br>

    <lable for="gender">Gender:</lable><br>
    <input type="radio" id="male" name="gender" value="male">
    <label for="male">Male</label>

    <input type="radio" id="female" name="gender" value="female">
    <label for="female">Female</label><br><br>

    <lable for="office">Office:</lable><br>
    <select name="location">
      <option value="Mumbai">Mumbai</option>
      <option value="Banglore">Banglore</option>
      <option value="Chennai">Chennai</option>
      <option value="Delhi">Delhi</option>
    </select><br><br>

    <input type="submit" value="Submit">
  </form>
</body>
```

JavaScript Code

```

function validateForm(event) {
    event.preventDefault();
    var firstName = document.forms["myForm"]["fname"].value;
    var lastName = document.forms["myForm"]["lname"].value;
    var email_Id = document.forms["myForm"]["email"].value;
    var gender = document.forms["myForm"]["gender"].value;
    var officeLocation = document.forms["myForm"]["location"].value;
    var regex = new RegExp("[a-zA-Z0-9]+@[a-zA-Z]*.[com|edu]");
    if (firstName == '') {
        alert('Please Enter the First Name');
    }
    else if (lastName == '') {
        alert('Please Enter the Last Name');
    }
    else if (gender == '') {
        alert('Please Select a Gender');
    }
    else if (!regex.test(email_Id)) {
        alert('Please Enter a Valid Email Id');
    }
    else if (officeLocation == '') {
        alert('Please Select an Office Location');
    }
    else {
        var jsonobj = JSON.parse(JSON.stringify({'firstName' : ' + firstName + ', "lastName" : ' + lastName
        ', "gender" : ' + gender + ', "officeLocation" : ' + officeLocation + '}'));
        console.log(jsonobj);
    }
}

```

Output

## Javascript Assignment 5 - Form Manipulation

First name:

Last name:

Email Id:

Gender:

☒ Male ☐ Female

Office:



```

{"firstName" :Aagam, "lastName" : Shah ,"emailId" : aagam01@somaiya.edu,
"gender" : male, "officeLocation" : Chennai}

```

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