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

```
function prime_factors(n){
  factors = [];
  for(let i = 2; i <= Math.floor(n/2); i++){
    if(n % i === 0){
      factors.push(i);
    }
  }
  factors.push(n);
  // console.log(factors);
  answer = [];
  for(let i of factors){
    let flag = true;
    for(let j = 2; j <= Math.floor(Math.sqrt(i)); j++){
      if(i % j === 0){
        flag = false;
        break;
      }
    }
    if(flag === true){
      answer.push(i);
    }
  }
  // console.log(answer);
  return answer;
}

console.log(prime_factors(7235));
```

Output:

```
D:\Accolite-Internship\Accolite-Assgn\JavaScript - Morning>node 1.js
[ 5, 1447 ]
```

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

```
function change_case(str){
  let answer = ""
  for(let i of str){
    if(i <='z' && i >='a'){
```

```

        answer += i.toUpperCase();
    }
    else if(i<='Z' && i>='A'){
        answer += i.toLowerCase();
    }
    else{
        answer += i;
    }
}
return answer;
}

console.log(change_case("QwErTy12"));

```

Output:

```

D:\Accolite-Internship\Accolite-Assgn\JavaScript - Morning>node 2.js
qWeRtY12

```

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

```

function same_digits(n){
    if(n < 10){
        return true;
    }
    else if(n < 100){
        if(n%10 === (Math.floor(n/10))%10)
            return true;
        else
            return false;
    }
    else{
        flag = true;

        while(n>9){
            if(n%10 !== (Math.floor(n/10))%10){
                flag = false;
                break;
            }
            n = Math.floor(n/10);
        }

        return flag;
    }
}

```

```

    }
}

console.log(5555);
console.log(same_digits(5555));
//console.log(55556);
//console.log(same_digits(55556));

```

Output:

```

D:\Accolite-Internship\Accolite-Assgn\JavaScript - Morning>node 3.js
5555
true

```

```

D:\Accolite-Internship\Accolite-Assgn\JavaScript - Morning>node 3.js
55556
false

```

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

```

function sum(str){
    total = "0";
    for(i of str){
        if(i <= '9' && i >= '0'){
            total = +total + +i;
        }
    }
    return total;
}

console.log(sum("abcd123456"));

```

Output:

```

D:\Accolite-Internship\Accolite-Assgn\JavaScript - Morning>node 4.js
21

```

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" : ".....",
    ....
}
```

HTML file (index.html):

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <script type="text/javascript" src="./5.js"></script>
    <title>Details</title>
</head>
<body>
    <form id="myform">
        <label>Enter First Name: </label>
        <input type="text" id="Fname" placeholder="Enter your First Name">
        <br><br>
        <label>Enter Last Name: </label>
        <input type="text" id="Lname" placeholder="Enter your Last Name">
        <br><br>

        <label>Gender</label>
        <input type="radio" name="gender" id="g" value="male">Male
        <input type="radio" name="gender" id="g" value="female">Female

        <br><br>
        <label>Enter E-mail Address: </label>
        <input type="text" id="email" placeholder="Enter your E-mail address">
        <br><br>
        <label for="Preference">Location Preference: </label>
        <!-- <br> -->
        <select id="location">
            <option value="Mumbai">Mumbai</option>
            <option value="Bangalore">Bangalore</option>
            <option value="Chennai">Chennai</option>
            <option value="Hyderabad">Hyderabad</option>
            <option value="Delhi">Delhi</option>
        </select>
```

```

        <br><br>
        <button type="submit" onclick="onSubmit(event)">SUBMIT</button>
    </form>
</body>
</html>

```

Javascript file (5.js):

```
var regex = new RegExp("[a-zA-Z0-9]+@[a-zA-Z]+.[com|edu]");
```

```

function onSubmit(event){
    event.preventDefault();
    if(document.getElementById('Fname').value == ""){
        alert('Please enter First Name');
    }
    else if(document.getElementById('Lname').value == ""){
        alert('Please enter Last Name');
    }
    else if(document.getElementById('g').value == ""){
        alert('Please enter Gender');
    }
    else if(document.getElementById('email').value == ""){
        alert('Please enter Email Address');
    }
    else if(document.getElementById('location').value == ""){
        alert('Please enter location');
    }
    else{
        if(regex.test(document.getElementById('email').value)){
            var JSON_obj = JSON.parse(JSON.stringify({FirstName:
${document.getElementById('Fname').value}, LastName:
${document.getElementById('Lname').value}, Gender: ${document.getElementById('g').value}, E-mail:
${document.getElementById('email').value}, Location:
${document.getElementById('location').value}}));
            // console.log(document.getElementById("name").value);
            console.log(JSON_obj);
        }
        else{
            alert('Enter Valid E-mail Address!!')
        }
    }
}

```

Output:

Valid Email:

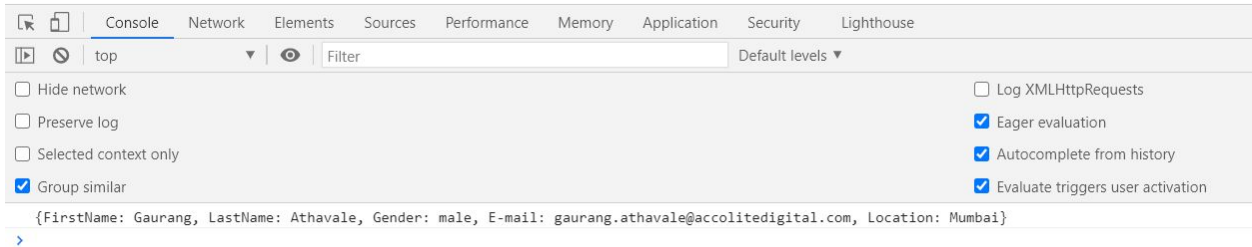
Enter First Name:

Enter Last Name:

Gender ☒ Male ☐ Female

Enter E-mail Address:

Location Preference:



Invalid Email:

Apps Gmail YouTube Maps Launch Meeting - Z... Javascript

Enter First Name:

Enter Last Name:

Gender ☒ Male ☐ Female

Enter E-mail Address:

Location Preference:

This page says
Enter Valid E-mail Address!!

OK