```
<html>
<body>
<script>
function triangleType(a, b, c)
{

    if (a == b && b == c)
        return "Equilateral";
    else if (a == b || b == c || a == c)
        return "Isosceles";
    else
        return "Scalene";

}
function angleType(a, b, c)
{
var x = a * a;
var y = b * b;
var z = c * c;
if(a>b && a>c) // when largest side is 'a'
{
    if(x == y + z)
    return "right-angled";
    else if(x < y + z)
    return "acute-angled";
    else
    return "obtuse-angled";

}
else if(b>a && b>c) // when largest side is 'b'
{
   if(y == x + z)
    return "right-angled";
    else if(y < x + z)
    return "acute-angled";
    else
    return "obtuse-angled";
}
else // when largest side is 'c'
{
    if(z == x + y)
    return "right-angled";
    else if(z < x + y)
    return "acute-angled";
    else
    return "obtuse-angled";

}
```

```
}
function triangle(a, b, c)
{
document.write("a = " + a + ", b = " + b + ", c = " + c);
document.write("<br/>Triangle is " + triangleType(a, b, c) + " and "
+  angleType(a, b, c));
}
    let a = prompt("Enter the first side: ");
    let b = prompt("Enter the second side: ");
    let c = prompt("Enter the third side: ");
    if(a == 0 || b == 0 || c == 0) // to check whether length of any side is 0
or not
      document.write("Triangle cannot be formed");
    else
      triangle(a, b, c);

</script>
</body>
</html>
```

Output

a = 12, b = 12, c = 12
Triangle is Equilateral and acute-angled

Q2

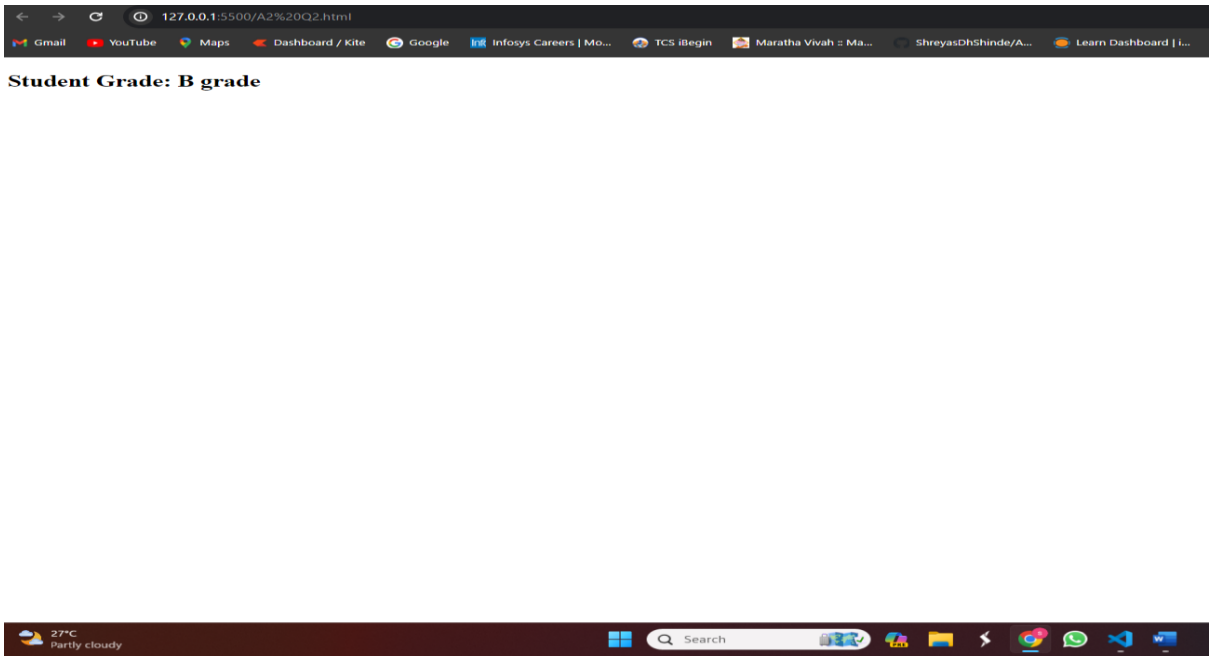
```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Student Grade</title>
</head>
<body>
<script>
  function findGrade(marks) {
    let grade;

    switch (true) {
      case marks >= 90 && marks <= 100:
        grade = "S grade";
        break;
      case marks >= 80 && marks < 90:
        grade = "A grade";
        break;
      case marks >= 70 && marks < 80:
        grade = "B grade";
        break;
      case marks >= 60 && marks < 70:
        grade = "C grade";
        break;
      case marks >= 50 && marks < 60:
        grade = "D grade";
        break;
      case marks >= 40 && marks < 50:
        grade = "E grade";
        break;
      case marks >= 0 && marks < 40:
        grade = "Student has failed";
        break;
      default:
        grade = "Invalid marks";
    }

    return grade;
  }
  const studentMarks = 75;
  const result = findGrade(studentMarks);

  document.write(`<h2>Student Grade: ${result}</h2>`);
</script>
</body>
</html>
```

Output


127.0.0.1:5500/A2%20Q2.html
Gmail
YouTube
Maps
Dashboard / Kite
Google
Infosys Careers | Mo...
TCS iBegin
Maratha Vivah :: Ma...
ShreyasDhShinde/A...
Learn Dashboard | i...
Student Grade: B grade
27°C
Partly cloudy
Search

Q3

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Sum of Multiples</title>
</head>
<body>

<script>
  function findSum(limit) {
    let sum = 0;

    for (let i = 1; i < limit; i++) {
      if (i % 3 === 0 || i % 5 === 0) {
        sum += i;
      }
    }

    return sum;
  }

  const limit = 1000;

  const result = findSum(limit);

  document.write(`<h2>The sum of multiples of 3 and 5 under ${limit} is:
${result}</h2>`);
</script>
</body>
</html>
```

Output

The sum of multiples of 3 and 5 under 1000 is: 233168

Q4

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Prime Factorial Finder</title>
  <script>
    function isPrime(num) {
      if (num <= 1) return false;
      for (let i = 2; i <= Math.sqrt(num); i++) {
        if (num % i === 0) return false;
      }
      return true;
    }

    function calculateFactorial(num) {
      let factorial = 1;
      for (let i = 2; i <= num; i++) {
        factorial *= i;
      }
      return factorial;
    }

    function findPrimeFactorials(start, end) {
      if (start > end) {
        console.error("Invalid range. Start value should be less than or equal
to end value.");
        return;
      }

      const resultContainer = document.getElementById("result");
      resultContainer.innerHTML = ""; // Clear previous results

      for (let i = start; i <= end; i++) {
        if (isPrime(i)) {
          const factorial = calculateFactorial(i);
          const resultMessage = `Factorial of prime number ${i} is:
${factorial}<br>`;
          resultContainer.innerHTML += resultMessage;
        }
      }
    }
  </script>
</head>
<body>
  <h2>Prime Factorial Finder</h2>
  <label for="start">Start Range:</label>
```

```
  <input type="number" id="start" name="start" value="1">
  <br>
  <label for="end">End Range:</label>
  <input type="number" id="end" name="end" value="100">
  <br>
  <button
onclick="findPrimeFactorials(Number(document.getElementById('start').value),
Number(document.getElementById('end').value))">Find Prime Factorials</button>
  <div id="result"></div>
</body>
</html>
```

Output