BCSE203E - Web Programming

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Quadratic Equation Solver</title>
</head>
<body>
   <p>ENTER TO FIND ROOTS</p>
   <button onclick="findroots()">Click Here</button>

   <script>
      function findroots() {
         var a = parseFloat(prompt("Enter the coefficient 'a':"));
         var b = parseFloat(prompt("Enter the coefficient 'b':"));
         var c = parseFloat(prompt("Enter the coefficient 'c':"));

         if (a === 0) {
            document.write("This is not a quadratic equation (a cannot be 0).");
            return;
         }

         var discriminant = b * b - 4 * a * c;
         document.write("Discriminant (sr): " + discriminant + "<br>");

         if (discriminant > 0) {
            var root1 = (-b + Math.sqrt(discriminant)) / (2 * a);
            var root2 = (-b - Math.sqrt(discriminant)) / (2 * a);
            document.write("<h1>Roots are real and distinct:</h1>");
            document.write("Root 1: " + root1 + "<br>");
```

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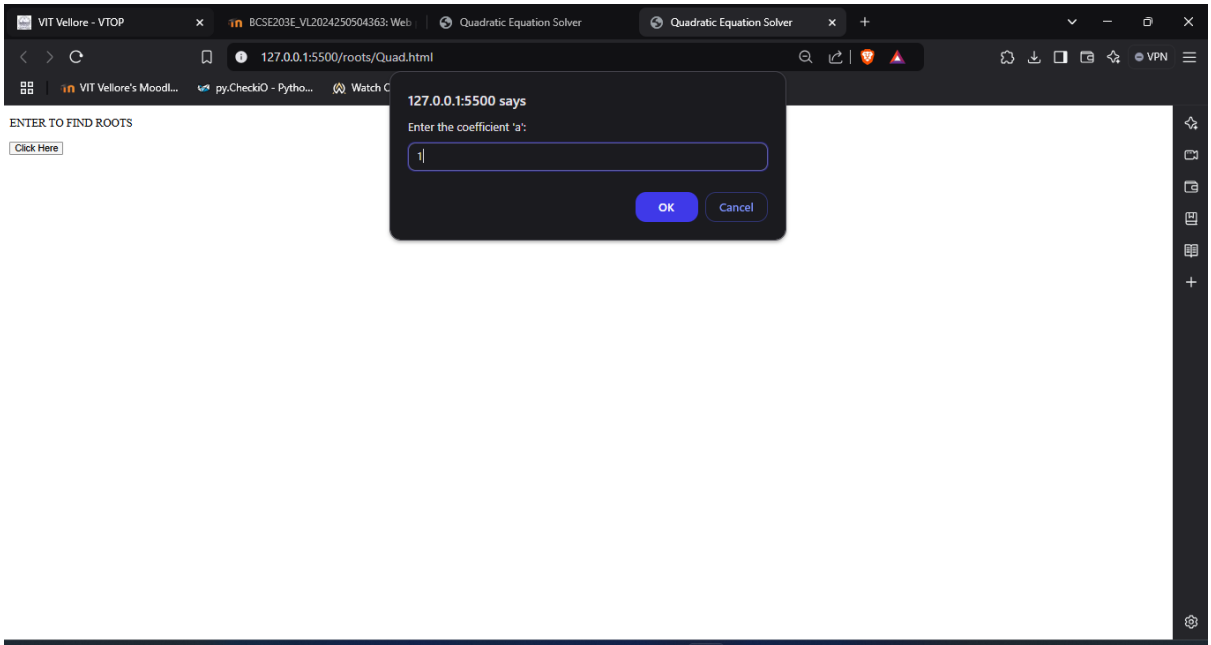
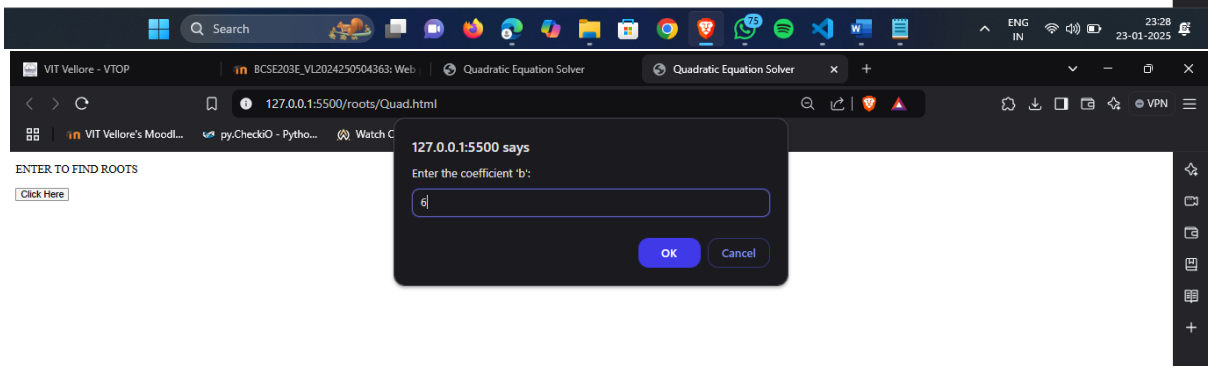
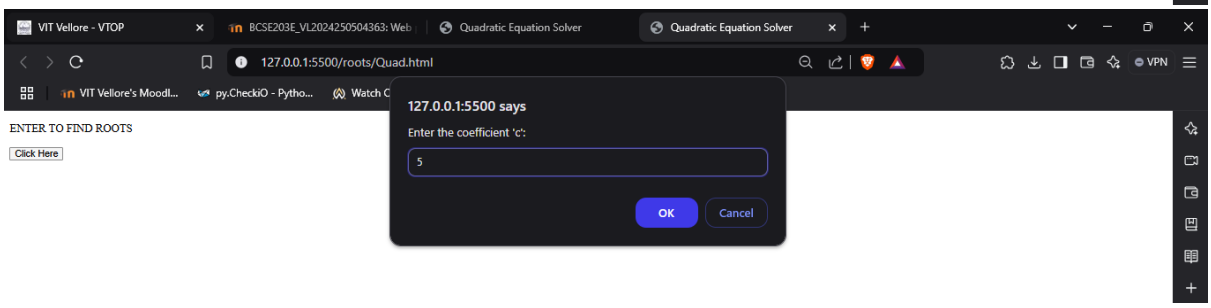
            document.write("Root 2: " + root2 + "<br>");
        } else if (discriminant === 0) {
            var root = -b / (2 * a);
            document.write("<h1>Roots are real and equal:</h1>");
            document.write("Root: " + root + "<br>");
        } else {
            var realPart = -b / (2 * a);
            var imaginaryPart = Math.sqrt(-discriminant) / (2 * a);
            document.write("<h1>Roots are complex:</h1>");
            document.write("Root 1: " + realPart + " + " + imaginaryPart + "i<br>");
            document.write("Root 2: " + realPart + " - " + imaginaryPart + "i<br>");
        }
    }
  </script>
</body>
</html>
```

Output:







Discriminant (sr): 16

Roots are real and distinct:

Root 1: -1
Root 2: -5