Q 1 Write a JavaScript program to get the volume of a Cylinder, Sphere and Cone with four decimal places using objects and classes. Create classes for volumes for each geometric shape which returns the output using the getVolume() method.

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Geometric Shapes Volume Calculator</title>

</head>

<body>

    <h2>Geometric Shapes Volume Calculator</h2>

    <label for="cylinderRadius">Cylinder Radius:</label>

    <input type="number" id="cylinderRadius">

    <label for="cylinderHeight">Cylinder Height:</label>

    <input type="number" id="cylinderHeight">

    <button onclick="calculateCylinderVolume()">Calculate Cylinder Volume</button>

    <br><br>

    <label for="sphereRadius">Sphere Radius:</label>

    <input type="number" id="sphereRadius">

    <button onclick="calculateSphereVolume()">Calculate Sphere Volume</button>

    <br><br>

    <label for="coneRadius">Cone Radius:</label>

    <input type="number" id="coneRadius">

    <label for="coneHeight">Cone Height:</label>

    <input type="number" id="coneHeight">

    <button onclick="calculateConeVolume()">Calculate Cone Volume</button>

    <br><br>

    <p id="output"></p>

    <script>

        class Cylinder {

            constructor(radius, height) {

                this.radius = radius;

                this.height = height;

            }

            getVolume() {

                return (Math.PI \* Math.pow(this.radius, 2) \* this.height).toFixed(4);

            }

        }

        class Sphere {

            constructor(radius) {

                this.radius = radius;

            }

            getVolume() {

                return ((4 / 3) \* Math.PI \* Math.pow(this.radius, 3)).toFixed(4);

            }

        }

        class Cone {

            constructor(radius, height) {

                this.radius = radius;

                this.height = height;

            }

            getVolume() {

                return ((1 / 3) \* Math.PI \* Math.pow(this.radius, 2) \* this.height).toFixed(4);

            }

        }

        function calculateCylinderVolume() {

            const radius = parseFloat(document.getElementById('cylinderRadius').value);

            const height = parseFloat(document.getElementById('cylinderHeight').value);

            const cylinder = new Cylinder(radius, height);

            document.getElementById('output').innerHTML = `Cylinder Volume: ${cylinder.getVolume()}`;

        }

        function calculateSphereVolume() {

            const radius = parseFloat(document.getElementById('sphereRadius').value);

            const sphere = new Sphere(radius);

            document.getElementById('output').innerHTML = `Sphere Volume: ${sphere.getVolume()}`;

        }

        function calculateConeVolume() {

            const radius = parseFloat(document.getElementById('coneRadius').value);

            const height = parseFloat(document.getElementById('coneHeight').value);

            const cone = new Cone(radius, height);

            document.getElementById('output').innerHTML = `Cone Volume: ${cone.getVolume()}`;

        }

    </script>

</body>

</html>

Output

