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**Assignment No. 05**

**Problem Statement -** Create a webpage using PHP to demonstrate the Inheritance concept such as: to create a Class shape and its subclass triangle, square and circle and display area of the selected shape.( use the concept of Inheritance) Display menu( use radio button) a) Triangle b) Square c) Circle.

**Code –**

1. **Omkar5.html**

<!DOCTYPE html>

<html>

<head>

    <title>Shape Calculator</title>

    <script>

        function showFields() {

            var selection = document.getElementById("shape").value;

            document.getElementById("coneCylinderFields").style.display = (selection == "1" || selection == "2") ? "block" : "none";

            document.getElementById("sphereFields").style.display = (selection == "3") ? "block" : "none";

            document.getElementById("cubeFields").style.display = (selection == "4") ? "block" : "none";

        }

    </script>

</head>

<body>

    <form action="Assign6.php" method="get">

        <center>

            <h2>Select a Shape</h2>

            <select id="shape" name="op" onchange="showFields()">

                <option value="">-- Select --</option>

                <option value="1">Cone</option>

                <option value="2">Cylinder</option>

                <option value="3">Sphere</option>

                <option value="4">Cube</option>

            </select>

           <div id="coneCylinderFields" style="display: none;">

                <h2>Enter Parameters</h2>

                <table>

                    <tr>

                        <td>Enter Radius: </td>

                        <td><input type="text" name="r"></td>

                    </tr>

                    <tr>

                        <td>Enter Height: </td>

                        <td><input type="text" name="h"></td>

                    </tr>

                </table>

            </div>

           <div id="sphereFields" style="display: none;">

                <h2>Enter Parameters</h2>

                <table>

                    <tr>

                        <td>Enter Radius: </td>

                        <td><input type="text" name="r1"></td>

                    </tr>

                </table>

            </div>

           <div id="cubeFields" style="display: none;">

                <h2>Enter Parameters</h2>

                <table>

                    <tr>

                        <td>Enter Length: </td>

                        <td><input type="text" name="l"></td>

                    </tr>

                </table>

            </div>

    <br>

            <input type="submit" value="SUBMIT">

        </center>

    </form>

</body>

</html>

1. **Omkar5.php**

<?php

define('PI', 3.14);

interface Shape

{

function calc\_area($r, $h);

function calc\_vol($r, $h);

}

class Sphere implements Shape

{

function calc\_area($r, $h)

{

return 4 \* PI \* $r \* $r;

}

function calc\_vol($r, $h)

{

return (4 / 3) \* PI \* $r \* $r \* $r;

}

}

class Cylinder implements Shape

{

function calc\_area($r, $h)

{

return 2 \* PI \* $r \* ($r + $h);

}

function calc\_vol($r, $h)

{

return PI \* $r \* $r \* $h;

}

}

class Cone implements Shape

{

function calc\_area($r, $h)

{

return PI \* $r \* ($r + sqrt($h \* $h + $r \* $r));

}

function calc\_vol($r, $h)

{

return (1 / 3) \* PI \* $r \* $r \* $h;

}

}

class Cube implements Shape

{

function calc\_area($r, $h)

{

return 6 \* $r \* $r;

}

function calc\_vol($r, $h)

{

return $r \* $r \* $r;

}

}

$op = isset($\_GET['op']) ? $\_GET['op'] : null;

switch ($op) {

case 1:

$r = isset($\_GET['r']) ? (float)$\_GET['r'] : 0;

$h = isset($\_GET['h']) ? (float)$\_GET['h'] : 0;

$ob = new Cone();

$a = $ob->calc\_area($r, $h);

$v = $ob->calc\_vol($r, $h);

echo "Area of Cone is: " . $a . "<br>Volume of Cone is: " . $v;

break;

case 2:

$r = isset($\_GET['r']) ? (float)$\_GET['r'] : 0;

$h = isset($\_GET['h']) ? (float)$\_GET['h'] : 0;

$ob = new Cylinder();

$a = $ob->calc\_area($r, $h);

$v = $ob->calc\_vol($r, $h);

echo "Area of Cylinder is: " . $a . "<br>Volume of Cylinder is: " . $v;

break;

case 3:

$r = isset($\_GET['r1']) ? (float)$\_GET['r1'] : 0;

$ob = new Sphere();

$a = $ob->calc\_area($r, 0);

$v = $ob->calc\_vol($r, 0);

echo "Area of Sphere is: " . $a . "<br>Volume of Sphere is: " . $v;

break;

case 4:

$r = isset($\_GET['l']) ? (float)$\_GET['l'] : 0;

$ob = new Cube();

$a = $ob->calc\_area($r, 0);

$v = $ob->calc\_vol($r, 0);

echo "Area of Cube is: " . $a . "<br>Volume of Cube is: " . $v;

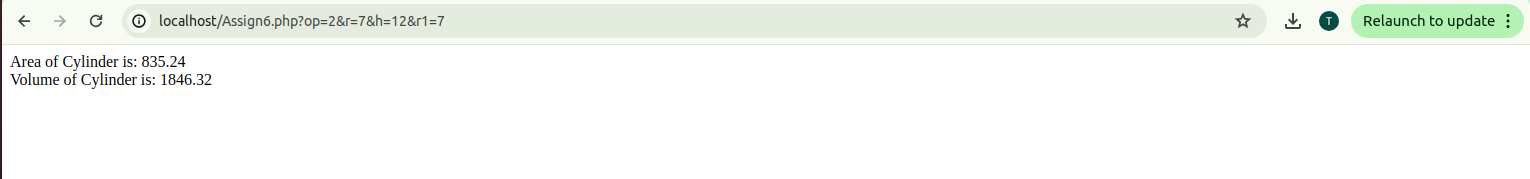
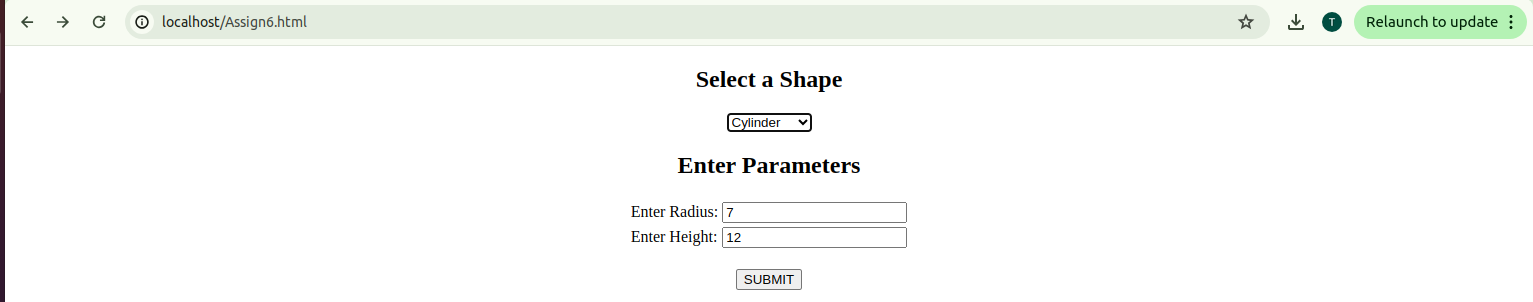
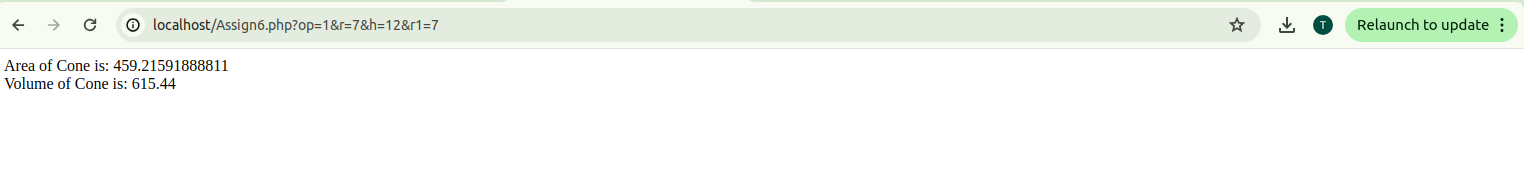
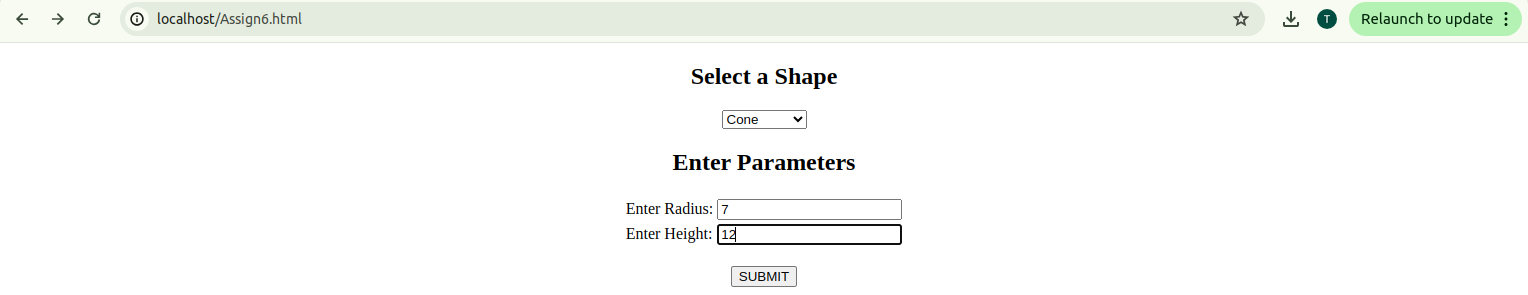
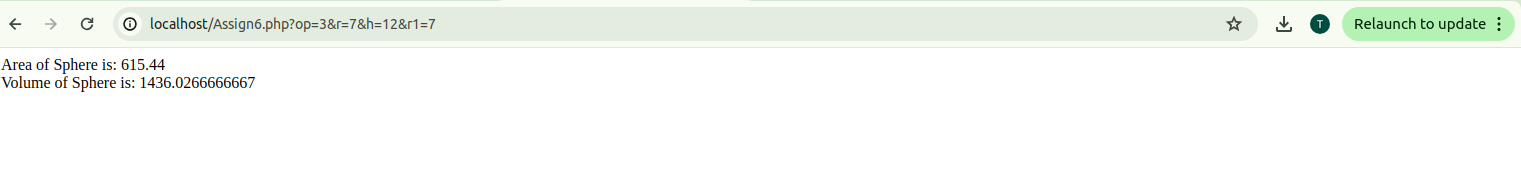
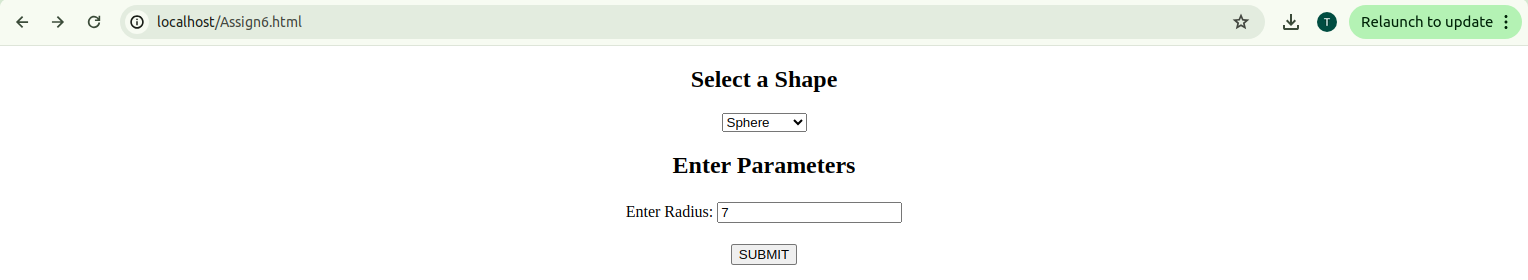
break;

default:

echo "Invalid operation.";

}

?>

**Output: **