**1.Create PHP program which display following output given below using ECHO statements.**

**<?php**

echo "<h2>HELLO WE ARE GOING TO START WITH PHP</h2>";

echo " <br>";

echo "HELLO STUDENTS<br>";

echo "<h2>PHP is Fun!</h2>";

echo "Hello world!<br/>";

echo "I'm about to learn PHP!<br>";

echo "This ", "string ", "was ", "made ", "with multiple parameters.<BR>";

echo 'THIS IS SINGLE COATED STRING';

echo "<br>" ;

echo "<br>" ;

**?>**

**2.Create PHP program which display following output given below using ECHO statements with color red.**

<html>

<head>

<title>Colored Text with PHP</title>

<style>

/\* Define CSS styles for colored text \*/

.red {

color: red;

}

.blue {

color: blue;

}

.green {

color: green;

}

</style>

</head>

<body>

<h1>Colored Text with PHP</h1>

**<?php**

// Echo colored text using PHP

echo '<p class="red">This text is red.</p>';

echo '<p class="blue">This text is blue.</p>';

echo '<p class="green">This text is green.</p>';

**?>**

</body>

</html>

**3. Display the elements of array. (pre tag used for new line)**

<html>

<body>

<pre>

**<?php**

$cars = array("Volvo", "BMW", "Toyota");

var\_dump($cars);

**?>**

</pre>

</body>

</html>

**4. Display the elements of merge array. (pre tag used for new line)**

**<html>**

**<body>**

**<pre>**

**<?php**

**$a1=array("red","green");**

**$a2=array("blue","yellow");**

**print\_r(array\_merge($a1,$a2)); function used for print array elements**

**?>**

**</pre>**

**</body>**

**</html>**

**5. PHP script to demonstrate arithmetic operations:**

**<?php**

$a = 42;

$b = 20;

$c = $a + $b;

echo "Addtion Operation Result: $c <br>";

$c = $a - $b;

echo "Substraction Operation Result: $c <br>";

$c = $a \* $b;

echo "Multiplication Operation Result: $c <br>";

$c = $a / $b;

echo "Division Operation Result: $c <br>";

$c = $a % $b;

echo "Modulus Operation Result: $c <br>";

$c = $a++;

echo "Increment Operation Result: $c <br>";

$c = $a--;

echo "Decrement Operation Result: $c";

**?>**

**6. Create a program in PHP to display factorial number.**

**<?php**

**// Set the value of n to 6**

**$n = 6;**

**// Initialize variable x to store the factorial value**

**$x = 1;**

**// Loop to calculate the factorial of n**

**for($i = 1; $i <= $n - 1; $i++)**

**{**

**// Calculate factorial iteratively**

**$x \*= ($i + 1);**

**}**

**// Print the factorial of n**

**echo "The factorial of $n = $x"."\n";**

**?>**

**7. PHP Program to Find the Roots of a Quadratic Equation**

**<?php**

**function solveQuadratic($a, $b, $c) {**

**$discriminant = $b\*\*2 - 4\*$a\*$c;**

**if ($discriminant > 0) {**

**$root1 = (-$b + sqrt($discriminant)) / (2\*$a);**

**$root2 = (-$b - sqrt($discriminant)) / (2\*$a);**

**return [$root1, $root2];**

**} else if ($discriminant == 0) {**

**$root = -$b / (2\*$a);**

**return [$root];**

**} else {**

**return []; // No real roots**

**}**

**}**

**// Driver code**

**$a = 1;**

**$b = -3;**

**$c = 2;**

**$roots = solveQuadratic($a, $b, $c);**

**echo "Roots: " . implode(' , ', $roots);**

**?>**

**8. Create a PHP program to Check Vowel or consonant.**

**<?php**

**function isVowel($letter)**

**{**

**$letter = strtolower($letter);**

**if (**

**$letter == "a" || $letter == "e" || $letter == "i" || $letter == "o" || $letter == "u" )**

**{**

**return true;**

**}**

**else**

**{**

**return false;**

**}**

**}**

**// Driver code**

**$letter = "T";**

**if (isVowel($letter)) {**

**echo "$letter is a vowel.";**

**} else {**

**echo "$letter is a consonant.";**

**}**

**?>**

**9. PHP Program to Generate Multiplication Table**

**<html>**

**<body>**

**<center>**

**<h1 style="color: green;"> Multiplication Table </h1>**

**<h3> Enter the number </h3>**

**<form method="POST">**

**Enter a number:**

**<input type="text" name="number">**

**<input type="Submit"**

**value="Get Multiplication Table">**

**</form>**

**</center>**

**</body>**

**</html>**

**<?php**

**if($\_POST) {**

**$num = $\_POST["number"];**

**echo nl2br("<p style='text-align: center;'> Multiplication Table of $num: </p>");**

**for ($i = 1; $i <= 10; $i++) {**

**echo ("<p style='text-align: center;'>$num". " X " . "$i" . " = ". $num \* $i . "</p>");**

**}**

**}**

**?>**

**10** PHP Program to Display Fibonacci Sequence

**<?php**

**// PHP code to get the Fibonacci series**

**// Recursive function for fibonacci series.**

**function Fibonacci($number){**

**// if and else if to generate first two numbers**

**if ($number == 0)**

**return 0;**

**else if ($number == 1)**

**return 1;**

**// Recursive Call to get the upcoming numbers**

**else**

**return (Fibonacci($number-1) +**

**Fibonacci($number-2));**

**}**

**// Driver Code**

**$number = 10;**

**for ($counter = 0; $counter < $number; $counter++){**

**echo Fibonacci($counter),' ';**

**}**

**?>**

**Question Bank**

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1. PHP Program to Print Armstrong Numbers between Two Integers

**<?php**

**$num=407;**

**$total=0;**

**$x=$num;**

**while($x!=0)**

**{**

**$rem=$x%10;**

**$total=$total+$rem\*$rem\*$rem;**

**$x=$x/10;**

**}**

**if($num==$total)**

**{**

**echo "Yes it is an Armstrong number";**

**}**

**else**

**{**

**echo "No it is not an armstrong number";**

**}**

**?>**

2. PHP Program to Print Prime Numbers between Two Integers

<?php

function isPrime($n) {

if ($n == 1 || $n == 0) {

return false;

}

**// Run a loop from 2 to sqrt(n)**

for ($i = 2; $i <= sqrt($n); $i++) {

if ($n % $i == 0) {

return false;

}

}

return true;

}

**// Driver code**

$N = 50;

**// Check for every number from 1 to N**

for ($i = 1; $i <= $N; $i++) {

if (isPrime($i)) {

echo $i . " ";

}

}

?>

3. PHP Program to Find the Transpose of a Matrix

<html>

<body>

<?php

**//Initialize matrix a**

$a = array(

array(1, 2, 3),

array(4, 5, 6),

array(7, 8, 9)

);

**//Calculates number of rows and columns present in given matrix**

$rows = count($a);

$cols = count($a[0]);

**//Declare array t with reverse dimensions and initialize it with 0**

$t = array\_fill(0, $cols, array\_fill(0, $rows, 0));

**//Calculates transpose of given matrix**

for($i = 0; $i < $cols; $i++){

for($j = 0; $j < $rows; $j++){

**//Converts the row of original matrix into column of transposed matrix**

$t[$i][$j] = $a[$j][$i];

}

}

print("Transpose of given matrix: <br>");

for($i = 0; $i < $cols; $i++){

for($j = 0; $j < $rows; $j++){

print($t[$i][$j] . " ");

}

print("<br>");

}

?>

</body>

</html>

4. PHP Program to Multiply Matrices by passing it to a Function

<?php

**// PHP program to multiply two**

**// square matrices.**

**// This function multiplies mat1[][] and**

**// mat2[][], and stores the result in res[][]**

function multiply(&$mat1, &$mat2, &$res)

{

$N = 2;

for ($i = 0; $i < $N; $i++)

{

for ($j = 0; $j < $N; $j++)

{

$res[$i][$j] = 0;

for ($k = 0; $k < $N; $k++)

$res[$i][$j] += $mat1[$i][$k] \*

$mat2[$k][$j];

}

}

}

// Driver Code

$mat1 = array(array(1, 1),

array(2, 2),

array(3, 3),

array(4, 4));

$mat2 = array(array(1, 1),

array(2, 2),

array(3, 3),

array(4, 4));

multiply($mat1, $mat2, $res);

$N = 2;

echo ("Result matrix is

");

for ($i = 0; $i < $N; $i++)

{

for ($j = 0; $j < $N; $j++)

{

echo ($res[$i][$j]);

echo(" ");

}

echo ("

");

}

?>

5. Access Array Elements Using PHP Program

<html>

<body>

<?php

$cars = array("Volvo", "BMW", "Toyota");

echo $cars[2];

?>

</body>

</html>

6. PHP Program to Swap Elements

<?php

$a = 45;

$b = 78;

// Swapping Logic

$third = $a;

$a = $b;

$b = $third;

echo "After swapping:<br><br>";

echo "a =".$a." b=".$b;

?>

7. PHP Program to Find the Frequency of a Character

<?php

function countChars($str)

{

$chars = str\_split($str);

$count = array\_count\_values($chars);

foreach ($count as $char => $occurrences)

{

echo "'$char' occurs $occurrences times.\n";

}

}

**// Driver code**

$str = "Welcome GeeksforGeeks";

countChars($str);

?>

8. PHP Program to Calculate Length of String without Using strlen() Function

<?php

$s = 'string';

$i=0;

while ($s[$i] != '') {

$i++;

}

print $i;

?>

**9. PHP Program to Simple Calculator using switch Statement**

<html>

<head>

<title>GFG</title>

</head>

<body><center>

<h1> ARITHMETIC OPERATIONS DEMO USING SWITCH CASE IN PHP </h1>

<h3>Option-1 = Addition</h3>

<h3>Option-2 = Subtraction</h3>

<h3>Option-3 = Multiplication</h3>

<h3>Option-4 = Division</h3>

<form method="post">

<table border="0">

<tr>

**<!-- Taking value 1 in an text box -->**

<td> <input type="text" name="num1"value="" placeholder="Enter value 1"/>

</td>

</tr>

<tr>

**<!-- Taking value 1 in an text box -->**

<td> <input type="text" name="num2" value=""placeholder="Enter value 2"/>

</td>

</tr>

<tr>

**<!-- Taking option in an text box -->**

<td> <input type="text" name="option" value=""placeholder="Enter option 1-4 only"/>

</td>

</tr>

<tr>

<td> <input type="submit" name="submit"value="Submit"/>

</td>

</tr>

</table>

</form>

</center>

<?php

**// Checking submit condition**

if(isset($\_POST['submit'])) {

**// Taking first number from the**

**// form data to variable 'a'**

$a = $\_POST['num1'];

**// Taking second number from the**

**// form data to a variable 'b'**

$b = $\_POST['num2'];

**// Taking option from the form**

**// data to a variable 'ch'**

$ch = $\_POST['option'];

switch($ch) {

case 1:

**// Execute addition operation**

**// when option 1 is given**

$r = $a + $b;

echo " Addition of two numbers = " . $r ;

break;

case 2:

**// Executing subtraction operation**

**// when option 2 is given**

$r = $a - $b;

echo " Subtraction of two numbers= " . $r ;

break;

case 3:

**// Executing multiplication operation**

**// when option 3 is given**

$r = $a \* $b;

echo " Multiplication of two numbers = " . $r ;

break;

case 4:

**// Executing division operation**

**// when option 4 is given**

$r = $a / $b;

echo " Division of two numbers = " . $r ;

break;

default:

**// When 1 to 4 option is not given**

**// then this condition is executed**

echo ("invalid option\n");

}

return 0;

}

?>

</body>

</html>

10. PHP Program for calculate Power Using pow() Function

<?php

$num=pow(3, 2);

echo "Your number is = pow (3, 2)".'<br>';

echo "By using sqrt function Your number is : ".$num;

?>