
CORE PHP

MODULE : 3

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1: Write a PHP program to enter marks for five subjects Physics, Chemistry, Biology, Mathematics, and Computer, calculate percentages and grade by if else write a PHP program to find „Thursday“ in a week using the switch Function.

ANS:

```
<!DOCTYPE html>
<html lang="en">

<head>

<title>Grade Calculator</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></s
cript>
</head>
<div class="container mt-5" style="background-color: #c5a8fc;">
<br>
<br></br>
<h3> Student Grade Calculator</h3><br>
<h5>Enter Your Subject Marks (out of 100) and Know the Average Marks & Percentage.</h5>
<br>

<form method="post">
<div>
Enter Mark of Maths : <input class="number" type="number" value="maths" name="maths"
max="100" placeholder="" required />
<br>
Enter Mark of Physics : <input class="number" type="number" value="phy" name="phy"
max="100" placeholder="" required />
<br>
Enter Mark of Chemistry : <input class="number" type="number" value="che" name="che"
max="100" placeholder="" required />
<br>
Enter Mark of Biology : <input class="number" type="number" value="bio" name="bio"
max="100" placeholder="" required />
<br>
Enter Mark of Computer : <input class="number" type="number" value="comp" name="comp"
max="100" placeholder="" required />
<br>
<input type="submit" value="submit" name="submit">
</div>
</form>
</div>
</body>
</html>

<?php
if (isset($_POST["submit"])) {
```

```

$scores = $_POST; // store all scores in an array
$total = array_sum($scores); // calculate total score
$percentage = ($total / count($scores)) * 100; // calculate percentage

if ($percentage >= 80) {
    $grade = "A";
} elseif ($percentage >= 70) {
    $grade = "B";
} elseif ($percentage >= 60) {
    $grade = "C";
} elseif ($percentage >= 35) {
    $grade = "D";
} else {
    $grade = "Failed";
}

echo "<b>Congratulations! You scored $percentage% and your grade is $grade.</b>";
}
?>

```

OUTPUT:

Student Grade Calculator

Enter Your Subject Marks (out of 100) and Know the Average Marks & Percentage.

Enter Mark of Maths :

Enter Mark of Physics :

Enter Mark of Chemistry :

Enter Mark of Biology :

Enter Mark of Computer :

2: Write a PHP program to check Leap years between 1901 to 2016 Using nested if.

```

<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Leap Year Check </title>

    <style>
        body {
            background-color: cadetblue;
        }

        .number {
            border-radius: 5px;
            border: 1px solid #ccc;
            margin-bottom: 10px;
            width: 20%;
        }

        input {
            border-radius: 5px;
            border: 1px solid #ccc;

```

```

    }
</style>
</head>

<body>
    <center>
        <br><br>
        <h3> Enter Year to Know whether it's Leap Year or Not! </h3>
        <br>
        <form method="post">

            Enter Year : <input class="number" type="number" value="year" name="year" min="1901" max="2024" placeholder="Enter
Year" required />
            <br>
            <input type="submit" name="submit" value="Submit" />
        </form>

    </body>
<?php

if (isset($_POST["submit"])) {
    $year = $_POST["year"];

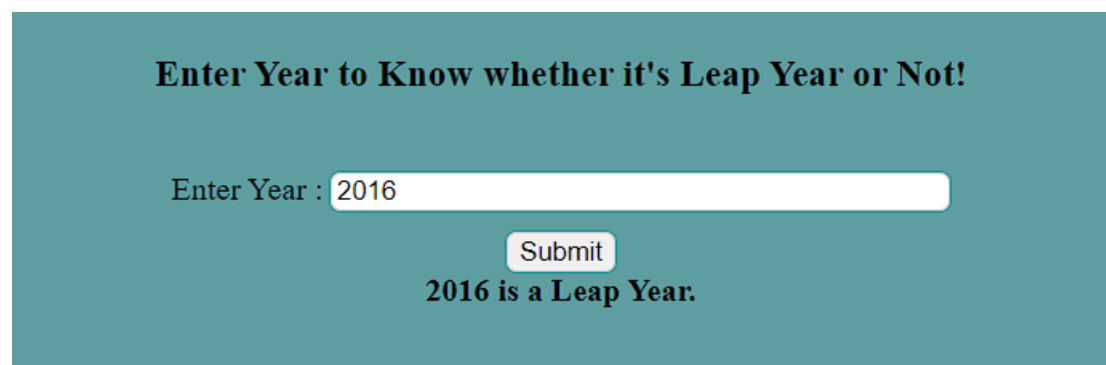
    if (($year % 4 == 0 && $year % 100 != 0 || $year % 400 == 0)) {
        echo "<b>" . $year . ' is a Leap Year.</b>';
    } else {
        echo "<b>" . $year . ' is not a Leap Year.</b>';
    }
}

?>
</center>

</body>
</html>

```

OUTPUT:



The screenshot shows a web page with a teal background. At the top, it says "Enter Year to Know whether it's Leap Year or Not!". Below this is a form with the label "Enter Year :" followed by a text input field containing "2016". To the right of the input field is a "Submit" button. Below the button, the text "2016 is a Leap Year." is displayed.

3 : Write a PHP program to find the largest of three numbers using ternary Operator.

```

<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>find the largest number</title>

    <style>
        body {
            background-color: #c5a8fc ;
            font-size: xx-large;
        }

        .number {
            border-radius: 5px;
            border: 1px solid ;

```

```

        margin-bottom: 10px;
        width: 20%;

    }

    input {
        border-radius: 5px;
        border: 1px solid #ccc;
    }
</style>
</head>

<body>
    <center>
        <br><br>
        <h3>Enter the Number and know the which is largest number</h3>
        <br>
        <form method="post">
            Enter First Number : <input class="number" type="number" name="n1" value="n1" placeholder="Enter First Number"
required />
            <br>
            Enter Second Number : <input class="number" type="number" name="n2" value="n2" placeholder="Enter Second Number"
required />
            <br>
            Enter Third Number : <input class="number" type="number" name="n3" value="n3" placeholder="Enter Third Number"
required />
            <br>
            <input type="submit" name="submit" value="Submit">
        </form>

        <?php

            if (isset($_POST["submit"])) {
                $n1 = $_POST["n1"];
                $n2 = $_POST["n2"];
                $n3 = $_POST["n3"];

                $n = ($n1 > $n2) ? (($n1 > $n3) ? "<b>$n1 is the Largest Number.</b>" : "<b>$n3 is the Largest Number.</b>") :
(($n2 > $n3) ? "<b>$n2 is the Largest Number.</b>" : "<b>$n3 is the Largest Number.</b>");

                echo $n;
            }
        ?>

    </center>
</body>
</html>

```

OUTPUT:

Enter the Number and know the which is largest number

Enter First Number :

Enter Second Number :

Enter Third Number :

724 is the Largest Number.

4 : Write a program in PHP to print Fibonacci series. 0, 1, 1, 2, 3, 5, 8, 13, 21, 34.

```

<?php

//? The Fibonacci series is a sequence of numbers in which each number is the
sum of the two preceding numbers.
//? The sequence starts with 0 and 1

function Fibonacci($n)
{

    $num1 = 0;
    $num2 = 1;

    $num = 0;

    while ($num < $n) {
        echo ' ' . $num1;
        $num3 = $num2 + $num1;
        $num1 = $num2;
        $num2 = $num3;
        $num = $num + 1;
    }
}

Fibonacci(10);

```

Outout:

0 1 1 2 3 5 8 13 21 34

5 : Write a program to find whether a number is Armstrong or not

```

<!-- An Armstrong number is the one whose value is equal to the sum of the
cubes of its digits.

0, 1, 153, 371, 407, 471, etc are Armstrong numbers. -->

```

```

<html>

<body>
    <form method="post">
        Enter the Number:
        <input type="number" name="number">
        <input type="submit" value="Submit">
    </form>
</body>

</html>
<?php
if ($_POST) {
    //get the number entered
    $number = $_POST['number'];
    //store entered number in a variable
    $a = $number;
    $sum = 0;
    //run loop till the quotient is 0
    while ($a != 0) {
        $rem = $a % 10; //find reminder
        $sum = $sum + ($rem * $rem * $rem);
        //cube the reminder and add it to the sum variable till the loop ends
        $a = $a / 10;
        //find quotient. if 0 then loop again
    }
    //if the entered number and $sum value matches then it is an armstrong
    number
    if ($number == $sum) {
        echo "Yes $number an Armstrong Number";
    } else {
        echo "$number is not an Armstrong Number";
    }
}
?>

```

Output:

Enter the Number:

Yes 371 an Armstrong Number

6: Write a program to print the below format :

5
9
2610
3711
4812

```
<?php

$arr = [
    array(5, " ", 9),
    array(2, 6, 1, 0),
    array(3, 7, 1, 1),
    array(4, 8, 1, 2)
];

for ($i = 0; $i < count($arr); $i++) {
    for ($j = 0; $j < count($arr[$i]); $j++) {
        echo $arr[$i][$j];
    }
    echo "<br>";
}
```

Output:

5 9
2610
3711
4812

7 : Write a program for this Pattern:

*
*
*

```
<?php
$rows = 5;
$columns = 5;

for ($i = 1; $i <= $rows; $i++) {
    for ($j = 1; $j <= $columns; $j++) {
        if ($i == 1 || $i == $rows || $j == 1) {
            echo "*";
        } else {
            echo "   ";
        }
    }
    echo "<br>";
}
```

Output:

```
* * * * *
*
*
*
* * * * *
```

8 : What will be the values of \$a and \$b after the code below is executed? Explain your answer.

\$a = '1';

\$b = &\$a;

\$b = "2\$b";

```
<?php
$a = '1';
$b = &$a; // $b is a reference to $a
$b = "2$b"; // modify $b, which also modifies $a

echo "a: $a\n"; // outputs: a: 21
echo "b: $b\n"; // outputs: b: 21

?>
```

Output:

a: 21 b: 21

9 : How can you tell if a number is even or odd without using any Condition or loop?

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Odd Even Number</title>
  <style>
    body {
      background-color: #c5a8fc;
      font-size: xx-large;
    }

    .number {
      border-radius: 5px;
      border: 1px solid #ccc;
      margin-bottom: 10px;
      width: 20%;
    }

    input {
      border-radius: 5px;
      border: 1px solid #ccc;
    }
  </style>
</head>

<body>
  <center>
    <br><br>
    <h3> Enter Number and know The Number is Odd or Even.</h3>
    <br>
    <form method="post">
      Enter a number : <input class="number" type="number" name="number" value=""
placeholder="Enter Number" id="number" required />
      <br>
      <input type="submit" name="submit" value="Submit" />
    </form>

    <?php
    if (isset($_POST['submit'])) {
      $num = $_POST['number'];
      $parity = array('Even', 'Odd');
      echo "The number is: {$parity[$num % 2]}";
    }
    ?>
  </center>
```

```
</body>
```

```
</html>
```

Output:

Enter Number and know The Number is Odd or Even.

Enter a number : 90

Submit

The number is: Even

10: How can you declare the array (all type) in PHP? Explain with example Covert a JSON string to array.

```
<?php

echo "<h3><u>In PHP, there are three types of arrays:</u></h3>";

echo "<b> 1. Indexed Array :</b> Arrays with a numeric index<br>";

$colors = array("red", "green", "blue");
print_r($colors);
echo"<br>";

echo "<b><br> 2. Associative arrays :</b> Arrays with named keys<br>";

$marks = array ("maths"=>"84","che"=>"65","phy"=>"72");
print_r($marks);
echo"<br>";
echo "You have got ".$marks['maths']." marks in Maths.<br>";
echo "You have got ".$marks['che']." marks in Chemistry.<br>";
echo "You have got ".$marks['phy']." marks in Physics.<br>";

echo "<b><br> 3. Multidimensional arrays :</b> Arrays containing one or more arrays<br>";

$emp = [
    [1,"neha","Manager",80000],
    [2,"riya","Ass Manager",65000],
    [3,"ragini","project manager",40000],
    [4,"jimmy","Designer",45000]
];

print_r($emp);

// Convert JSON string to array
$jsonString = '{"a":1,"b":2,"c":3,"d":4,"e":5}';
$data = json_decode($jsonString, true);

echo "<br><br><b>Converting JSON string to array:</b><br>";
print_r($data);

// Separate odd and even elements from array without using loop
$oddArray = array_filter($data, function($k) {
    return $k % 2 != 0;
});
$evenArray = array_filter($data, function($k) {
    return $k % 2 == 0;
});

// Re-index arrays
```

```

$oddArray = array_values($oddArray);
$evenArray = array_values($evenArray);

echo "<br><br><b>Odd array:</b><br>";
print_r($oddArray);
echo "<br><br><b>Even array:</b><br>";
print_r($evenArray);

// HTML form to input a number and determine if it's even or odd
if (isset($_POST['submit'])) {
    $num = $_POST['number'];
    $parity = array('Even', 'Odd');
    echo "<br><br>The number is: {$parity[$num % 2]}";
}

?>

<html>
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Odd Even Number</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-1BmE4kWBq78iYhFldvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqy12QvZ6jIW3" crossorigin="anonymous">
    <style>
        body {
            background-color: #c5a8fc;
            font-size: xx-large;
        }

        .number {
            border-radius: 5px;
            border: 1px solid #ccc;
            margin-bottom: 10px;
            width: 20%;
        }

        input {
            border-radius: 5px;
            border: 1px solid #ccc;
        }
    </style>
</head>

</html>

```

Output:

In PHP, there are three types of arrays:

1. Indexed Array : Arrays with a numeric index

Array ([0] => red [1] => green [2] => blue)

2. Associative arrays : Arrays with named keys

Array ([maths] => 84 [che] => 65 [phy] => 72)

You have got 84 marks in Maths.

You have got 65 marks in Chemistry.

You have got 72 marks in Physics.

3. Multidimensional arrays : Arrays containing one or more arrays

Array ([0] => Array ([0] => 1 [1] => neha [2] => Manager [3] => 80000) [1] => Array ([0] => 2 [1] => riya [2] => Ass Manager [3] => 65000) [2] => Array ([0] => 3 [1] => ragini [2] => project manager [3] => 40000) [3] => Array ([0] => 4 [1] => jimmy [2] => Designer [3] => 45000))

Converting JSON string to array:

Array ([a] => 1 [b] => 2 [c] => 3 [d] => 4 [e] => 5)

Odd array:

Array ([0] => 1 [1] => 3 [2] => 5)

Even array:

Array ([0] => 2 [1] => 4)

The number is: Even

11: Write program to remove duplicate values from array.

```
<?php
```

```
/* the array_unique() function only works with simple arrays of scalar values (such as strings, integers, and floats). If your array contains non-scalar values (such as arrays or objects), you may need to use a different approach to remove duplicates. */
```

```
$arr = array(1, 2, 3, 2, 4, 3, 5, 6, 5, 6, 4, 3, 2, 4, 3, 5);  
$uarray = array_unique($arr);
```

```
echo "<b>Array with Duplicate Values.<br></b>";  
print_r($arr);  
echo "<br><br>";  
echo "<b>Array after removing Duplicate Values.<br></b>";  
print_r($uarray);
```

```
?>  
<html>  
<head>  
  <meta charset="UTF-8">  
  <meta http-equiv="X-UA-Compatible" content="IE=edge">  
  <meta name="viewport" content="width=device-width, initial-scale=1.0">  
  <title>Remove duplicate values</title>  
  <style>  
    body {  
      background-color: #c5a8fc;  
      font-size: xx-large;  
    }  
  
    .number {  
      border-radius: 5px;  
      border: 1px solid #ccc;  
      margin-bottom: 10px;  
      width: 20%;  
    }  
  
    input {  
      border-radius: 5px;  
      border: 1px solid #ccc;  
    }  
  </style>  
</head>  
  
</html>
```

Output:

Array with Duplicate Values.

Array ([0] => 1 [1] => 2 [2] => 3 [3] => 2 [4] => 4 [5] => 3 [6] => 5 [7] => 6 [8] => 5 [9] => 6 [10] => 4 [11] => 3 [12] => 2 [13] => 4 [14] => 3 [15] => 5)

Array after removing Duplicate Values.

Array ([0] => 1 [1] => 2 [2] => 3 [4] => 4 [6] => 5 [7] => 6)

12: Get random values from array.

```
<?php  
  
$tmkoc = array("riya","Jimmy","ragini","nisha","vihaa","shreya","kartik","viral","jimmy","Neha");  
  
$rand = array_rand($tmkoc);  
  
echo "<b>$tmkoc[$rand]</b>";  
  
?>  
<html>  
<head>  
  <meta charset="UTF-8">  
  <meta http-equiv="X-UA-Compatible" content="IE=edge">  
  <meta name="viewport" content="width=device-width, initial-scale=1.0">  
  <title>Random value from array</title>  
  <style>  
    body {  
      background-color: #c5a8fc;  
      font-size: xx-large;  
    }  
  </style>  
</head>  
</html>
```

```

        .number {
            border-radius: 5px;
            border: 1px solid #ccc;
            margin-bottom: 10px;
            width: 20%;

        }

        input {
            border-radius: 5px;
            border: 1px solid #ccc;

        }
    </style>
</head>

</html>

```

Output:

Neha

13: Write a PHP script which decodes the following JSON string.

```

<?php
/** JSON string to decode
$json_str = '{"name":"Nezz Lad","age":23,"city":"Ahmedabad"}';

// Decode JSON string into a PHP array
$data = json_decode($json_str, true);

// Print out the decoded data
echo "Name: " . $data['name'] . "\n<br>";
echo "Age: " . $data['age'] . "\n<br>";
echo "City: " . $data['city'] . "\n<br>";
?>
<html>
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>JSON string</title>
    <style>
        body {
            background-color: #c5a8fc;
            font-size: xx-large;

        }

        .number {
            border-radius: 5px;
            border: 1px solid #ccc;
            margin-bottom: 10px;
            width: 20%;

        }

        input {
            border-radius: 5px;
            border: 1px solid #ccc;

        }
    </style>
</head>

</html>

```

Output:

Name: Nezz Lad
Age: 23
City: Ahmedabad

14: Use a for loop to total the contents of an integer array called numbers which has five elements. Store the result in an integer called total.

```
<?php
$numbers = array(1, 2, 3, 4, 5);
$total = 0;

for ($i = 0; $i < count($numbers); $i++) {
    $total += $numbers[$i];
}

echo "The total is: $total";
?>

<html>
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>integer array</title>
    <style>
        body {
            background-color: #c5a8fc;
            font-size: xx-large;
        }

        .number {
            border-radius: 5px;
            border: 1px solid #ccc;
            margin-bottom: 10px;
            width: 20%;
        }

        input {
            border-radius: 5px;
            border: 1px solid #ccc;
        }
    </style>
</head>

</html>
```

Output:

The total is: 15

15: Declare a Multi Dimensioned array of floats called balances having Three rows and five columns.

```
<?php
$balances = array(
    array(10.50, 20.75, 30.12, 40.99, 50.25),
    array(60.11, 70.22, 80.33, 90.44, 100.55),
    array(110.66, 120.77, 130.88, 140.99, 151.10)
```

```

);

print_r($balances);
echo "<br>";
echo "<b>Value of the element in the second row and second column :</b>" . $balances[2][2];
?>

<html>

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>balances</title>
  <style>
    body {
      background-color: #c5a8fc;
      font-size: xx-large;
    }

    .number {
      border-radius: 5px;
      border: 1px solid #ccc;
      margin-bottom: 10px;
      width: 20%;
    }

    input {
      border-radius: 5px;
      border: 1px solid #ccc;
    }
  </style>
</head>

</html>

```

Output:

```

Array ( [0] => Array ( [0] => 10.5 [1] => 20.75 [2] => 30.12 [3] => 40.99 [4] => 50.25 ) [1] => Array ( [0] => 60.11
[1] => 70.22 [2] => 80.33 [3] => 90.44 [4] => 100.55 ) [2] => Array ( [0] => 110.66 [1] => 120.77 [2] => 130.88 [3]
=> 140.99 [4] => 151.1 ) )

```

Value of the element in the second row and second column :130.88