**MODULE – 3(Core PHP)**

1. Write a PHP program to enter marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer, calculate percentage and grade by if else write a PHP program for find „Thursday‟ in week using switch Function.
2. <?php
3. // Enter marks for five subjects
4. $physics = 85;
5. $chemistry = 78;
6. $biology = 92;
7. $mathematics = 88;
8. $computer = 95;
9. // Calculate total, percentage, and grade
10. $total = $physics + $chemistry + $biology + $mathematics + $computer;
11. $percentage = ($total / 500) \* 100;
12. if ($percentage >= 90)
13. {
14. $grade = "A";
15. }
16. elseif ($percentage >= 80)
17. {
18. $grade = "B";
19. }
20. elseif ($percentage >= 70)
21. {
22. $grade = "C";
23. }
24. elseif ($percentage >= 60)
25. {
26. $grade = "D";
27. }
28. else
29. {
30. $grade = "E";
31. }
32. echo "Total Marks: $total/500\n";
33. echo "Percentage: $percentage%\n";
34. echo "Grade: $grade\n";
35. // Day number (1 for Monday, 2 for Tuesday, ..., 7 for Sunday)
36. $day = 4;
37. switch ($day) {
38. case 1:
39. echo "It is Monday!";
40. break;
41. case 2:
42. echo "It is Tuesday!";
43. break;
44. case 3:
45. echo "It is Wednesday!";
46. break;
47. case 4:
48. echo "It is Thursday!";
49. break;
50. case 5:
51. echo "It is Friday!";
52. break;
53. case 6:
54. echo "It is Saturday!";
55. break;
56. case 7:
57. echo "It is Sunday!";
58. break;
59. default:
60. echo "Invalid day number!";
61. break;
62. }
63. ?>

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

<?php

for ($year = 1901; $year <= 2016; $year++) {

    if ($year % 4 == 0) {

        if ($year % 100 == 0) {

            if ($year % 400 == 0) {

                echo "$year is a leap year.\n";

            } else {

                echo "$year is not a leap year.\n";

            }

        } else {

            echo "$year is a leap year.\n";

        }

    } else {

        echo "$year is not a leap year.\n";

    }

}

?>

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

<?php

// Define three numbers

$num1 = 10;

$num2 = 20;

$num3 = 15;

// Find the largest number using the ternary operator

$largest = ($num1 > $num2) ? ($num1 > $num3 ? $num1 : $num3) : ($num2 > $num3 ? $num2 : $num3);

echo "The largest number among $num1, $num2, and $num3 is: $largest";

?>

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

<?php

// Initialize the first two numbers of the Fibonacci series

$num1 = 0;

$num2 = 1;

// Print the first two numbers

echo $num1 . ", " . $num2;

while (true) {

    $num3 = $num1 + $num2;

    if ($num3 > 34) {

        break;

    }

    echo ", " . $num3;

    $num1 = $num2;

    $num2 = $num3;

}

?>

5). Write a program to find whether a number is Armstrong or not Write a program to print the below format : 5 9 2610 3711 4812.

<?php

function isArmstrong($number) {

    $sum = 0;

    $temp = $number;

    $numDigits = strlen((string)$number);

    while ($temp != 0) {

        $digit = $temp % 10;

        $sum += pow($digit, $numDigits);

        $temp = (int)($temp / 10);

    }

    return $sum == $number;

}

// Example usage

$number = 153;

if (isArmstrong($number)) {

    echo "$number is an Armstrong number.";

} else {

    echo "$number is not an Armstrong number.";

}

?>

6). Write a program for this Pattern:

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<?php

for ($i = 1; $i <= 5; $i++) {

    if ($i == 1 || $i == 5) {

        echo "\*\*\*\*\*\n";

    } else {

        echo "\*\n";

    }

}

?>

7). 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;

$b = "2$b";

echo $a;

echo $b;

?>

// Ans is 2121

8). How can you tell if a number is even or odd without using any Condition or loop?

<?php

function checkEvenOdd($number) {

    $result = ($number & 1) ? "Odd" : "Even";

    return $result;

}

// Example usage

$number = 7;

echo "$number is " . checkEvenOdd($number);

?>

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

/\* In PHP, you can declare different types of arrays: indexed arrays, associative arrays, and multidimensional arrays. Here are examples of each:

1. Indexed Arrays

Indexed arrays use numeric indices.

\*/

// Using array() function

$fruits = array("Apple", "Banana", "Cherry");

// Using short array syntax

$fruits = ["Apple", "Banana", "Cherry"];

2. Associative Arrays

Associative arrays use named keys.

// Using array() function

$ages = array("Peter" => 35, "Ben" => 37, "Joe" => 43);

// Using short array syntax

$ages = ["Peter" => 35, "Ben" => 37, "Joe" => 43];

3. Multidimensional Arrays

Multidimensional arrays contain one or more arrays.// Using array() function

$cars = array(

    array("Volvo", 22, 18),

    array("BMW", 15, 13),

    array("Saab", 5, 2),

    array("Land Rover", 17, 15)

);

// Using short array syntax

$cars = [

    ["Volvo", 22, 18],

    ["BMW", 15, 13],

    ["Saab", 5, 2],

    ["Land Rover", 17, 15]

];

<?php

//Converting a JSON String to an Array

$json\_string = '{"a":1,"b":2,"c":3,"d":4,"e":5}';

$array = json\_decode($json\_string, true);

// Output the array

print\_r($array);

?>

10). Write program to remove duplicate values from array.

<?php

// Input array with duplicate values

$array = array("apple", "banana", "apple", "orange", "banana", "grape");

// Remove duplicate values

$uniqueArray = array\_unique($array);

// Output the array with unique values

print\_r($uniqueArray);

?>

11). Get random values from array.

<?php

// Input array

$array = array("apple", "banana", "cherry", "date", "elderberry");

// Get a random key from the array

$randomKey = array\_rand($array);

// Get the random value using the random key

$randomValue = $array[$randomKey];

// Output the random value

echo "Random value: $randomValue";

?>

12). Write a PHP script which decodes the following JSON string.

<?php

// JSON string

$jsonString = '{"name":"John", "age":30, "city":"New York"}';

// Decode JSON string into a PHP array

$array = json\_decode($jsonString, true);

print\_r($array);

?>

13). 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

// Define the array with five elements

$numbers = array(10, 20, 30, 40, 50);

// Initialize the total variable

$total = 0;

// Use a for loop to sum the elements of the array

for ($i = 0; $i < count($numbers); $i++) {

    $total += $numbers[$i];

}

echo "The total is: $total";

?>

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

<?php

$balances = array(

    array(0.0, 0.0, 0.0, 0.0, 0.0),

    array(0.0, 0.0, 0.0, 0.0, 0.0),

    array(0.0, 0.0, 0.0, 0.0, 0.0)

);

// Output the array to verify

print\_r($balances);

?>