BACK END DEVELOPMENT WITH PHP

Data Types in PHP

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Learning PHP</title>
</head>
<body>
    <?php
    echo "Hello,PHP! <br>";
    //variables in PHP
    $name = "Jhon";
    $age = "24";
    echo "My name is $name, and iam $age years old";

    //data types in PHP
    $text = "Leraning PHP";//STRING
    $number = 42;//INTEGER
    $price = 99.99;//FLOATING POINT
    $isAvailable = true;//BOOLEAN

    echo "$text <br> $number <br> $price <br> $isAvailable";
    ?>
</body>
</html>
```

Operators in PHP

1. Arithmetic Operators

```
//operators in PHP
  $x =10;
 $y = 3;
  echo $x = $y;
  echo "<br>";
```

2. Assignment Operators

3.

```php
//Logical Operators
 echo (10>5) && (5>3); //Result is False
 echo "<br>";

 //Conditional Statements in PHP
     //if statement
     $age = 50;
     if ($age >= 18) {
         echo "You are eligible to vote!";
     }
     echo "<br>";
     //if-else
     $marks = 50;
     if ($marks >= 40) {
         echo "You passed";
     } else {
         echo "You failed";
     }
     echo "<br>";
     //if-elseif
     $score = 85;
     if ($score >= 90) {
         echo "Grade A";
     } elseif ($score >= 75) {
         echo "Grade B";
     } else {
         echo "Grade C";
     }
     echo "<br>";
```

Assignment

Write a PHP program to print even number from 1 to 100?

```php
 for ($i = 1; $i <= 100; $i++) {
          // Check if the number is even
          if ($i % 2 == 0) {
              echo  "Even number: $i <br>";   // Print the even number with a
line break
          }
      }
```

- **`for ($i = 1; $i <= 100; $i++)`:**
  - This is the **`for` loop**, which repeats a block of code a specified number of times.
  - `$i = 1`: Initializes the loop with the variable `$i` set to 1.
  - `$i <= 100`: This is the **loop condition**. It checks whether `$i` is less than or equal to 100. If true, the loop continues. If false, the loop ends.
  - `$i++`: This increments the value of `$i` by 1 after each loop iteration, so the loop progresses from 1 to 100.

- **`if ($i % 2 == 0)`:**
  - This is an **`if` statement**, which is used to execute a block of code only if the condition inside is true.
  - `$i % 2`: The **modulo operator (`%`)** is used to find the remainder when `$i` is divided by 2.
  - If the remainder is `0` (i.e., `$i % 2 == 0`), that means `$i` is an **even number** (because even numbers are divisible by 2 without any remainder).

- **`echo "Even number: $i. <br>";`:**
  - If the number `$i` is even (i.e., the condition is true), this line of code will be executed.
  - `echo` is used to output data in PHP.
  - `"Even number: $i. <br>"`: This is the string that will be printed.
    - `$i` is the current value of the loop variable (the even number).
    - `<br>` is an HTML line break tag, which makes the output appear on a new line in the browser.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Learning PHP</title>
</head>
<body>
  <?php
    // Print statement in PHP
    echo "Hello, PHP! <br>";

    //Variables in PHP
```

```php
$name = "John";
// $age = 25;
// echo "My name is $name, and I am $age years old! <br>";

//Data Types in PHP
$text = "Learning PHP";//String
$number = 42;//Number - Integer
$price = 99.99;//Number - Floating Point
$isAvailable = true;//Boolean
echo "$text <br> $number <br> $price <br> $isAvailable <br>";

//Operators in PHP
//Arithmetic Operators
$x = 10;
$y = 3;
echo $x + $y;
echo "<br>";

//Assignment Operators
$z = 5;
echo $z;
echo "<br>";

//Comparison Operator
echo 10 > 5;
echo "<br>";

//Logical Operators
echo (10 > 5) && (5 < 3); //Result is false
```

```php
//Conditional Statements in PHP
//if statement
$age = 50;
if ($age >= 18) {
   echo "You are eligible to vote!";
}
echo "<br>";
//if-else
$marks = 50;
if ($marks >= 40) {
   echo "You passed";
} else {
   echo "You failed";
}
echo "<br>";
//if-elseif
$score = 85;
if ($score >= 90) {
   echo "Grade A";
} elseif ($score >= 75) {
   echo "Grade B";
} else {
   echo "Grade C";
}
echo "<br>";

//switch statement
$day = "Monday";
```

```
switch ($day) {
   case "Monday":
      echo "Start of the work week";
      break;
   case "Friday":
      echo "End of the work week";
      break;
   default:
      echo "It's just another day";
}

//Loops in PHP
//while loop
$count = 1;
while ($count <= 5) {
   echo "Count:  $count <br>";
   $count++;
}

//do-while loop
$num = 1;
do {
   echo "Number: $num <br>";
   $num++;
} while ($num <= 5);

//for loop
for ($i = 1; $i <= 5; $i++) {
   echo "Iteration: $i <br>";
```

```
}

//Q1. Write a php program to display even numbers from 1 - 100
for ($z = 1; $z <= 100; $z++) {
   if($z % 2 == 0){
      echo "$z is even. <br>";
   }
}

//Q2. Check the maximum of three numbers using PHP
//Functions in PHP - No Para, No return type
function greet() {
   echo "Hello, welcome to PHP! <br>";
}
greet();
//With para, no return type
function greetPerson($name) {
   echo "Hello, $name <br>";
}
greetPerson("John");

//Q3. Write a PHP function that accepts two numbers as parameters and outputs the sum
//Q4. Write a PHP function that accept a number as a parameter and
//prints whether the number is odd or even.
//Q5. Write a function name calculateBMI that takes weight and height as parameters
//and prints the BMI value.
//Q6. Write a function to convert LKR to USD when the LKR value and rate is given as parameters.
//Q7. Write a function named sendEmail that accepts an email address and a message,
//print the simulated email send message.
```

//Q8. Write a function named printMultiplicationTable that takes a number as a parameter and prints

//the multiplication table upto 10.

//Q9. Write a function named countVowels that accepts a string and print the number of vowels in it.

//Q10. Write a function to display a right sided star pattern of 5 rows

?>

</body>

</html>

Assigments

Q3. Function to accept two numbers and output the sum

```php
function sum($num1, $num2) {
    $result = $num1 + $num2;
    echo "The sum of $num1 and $num2 is: $result";
}
sum(5, 3); // Example usage
```

Q4. Function to accept a number and print whether it is odd or even

```php
function checkOddEven($number) {
    if ($number % 2 == 0) {
        echo "$number is even.";
    } else {
        echo "$number is odd.";
    }
}
checkOddEven(7);
```

Q5. Function to calculate BMI

```php
function calculateBMI($weight, $height) {
    // BMI = weight (kg) / height (m)²
```

```
    $bmi = $weight / ($height * $height);
    echo "Your BMI is: " . round($bmi, 2); // Rounded to 2 decimal places
}
calculateBMI(70, 1.75); // Example usage (70 kg, 1.75 m)
```

Q6. Function to convert LKR to USD

```
function convertLKRtoUSD($lkr, $rate) {
    $usd = $lkr / $rate;
    echo "$lkr LKR is equal to " . round($usd, 2) . " USD at the rate of $rate.";
}
convertLKRtoUSD(10000, 365);
```

Q7. Function to simulate sending an email

```
function sendEmail($email, $message) {
    echo "Sending email to $email with message: $message";
}
sendEmail("test@example.com", "Hello! This is a test email."); // Example usage
```

Q8. Function to print the multiplication table of a number

```
function printMultiplicationTable($number) {
    for ($i = 1; $i <= 10; $i++) {
        echo "$number x $i = " . ($number * $i) . "<br>";
    }
}
printMultiplicationTable(5); // Example usage
```

Q9. Function to count vowels in a string

```
function countVowels($string) {
    $vowels = ['a', 'e', 'i', 'o', 'u'];
    $count = 0;

    // Convert string to lowercase to handle case-insensitivity
    $string = strtolower($string);

    // Iterate through each character in the string
    for ($i = 0; $i < strlen($string); $i++) {
        if (in_array($string[$i], $vowels)) {
            $count++;
        }
```

```
    }
    echo "Number of vowels in '$string' is: $count";
}
countVowels("Hello World"); // Example usage
```

Q10. Function to display a right-sided star pattern of 5 rows

```
function printStarPattern() {
    for ($i = 1; $i <= 5; $i++) {
        // Print spaces before stars
        echo str_repeat(" ", 5 - $i);
        // Print stars
        echo str_repeat("*", $i);
        // New line after each row
        echo "<br>";
    }
}
printStarPattern(); // Example usage
```

Explanation of Each Function:

- **Q3**: `sum()` accepts two numbers, adds them, and outputs the result.
- **Q4**: `checkOddEven()` accepts a number and checks if it is even or odd using the modulo operator (`%`).
- **Q5**: `calculateBMI()` calculates the Body Mass Index (BMI) by dividing the weight (in kg) by the square of the height (in meters).
- **Q6**: `convertLKRtoUSD()` converts Sri Lankan Rupees (LKR) to US Dollars (USD) based on the provided conversion rate.
- **Q7**: `sendEmail()` simulates sending an email by accepting an email address and a message.
- **Q8**: `printMultiplicationTable()` prints the multiplication table of a given number from 1 to 10.
- **Q9**: `countVowels()` counts the number of vowels (a, e, i, o, u) in a given string.
- **Q10**: `printStarPattern()` generates a right-aligned star pattern with 5 rows.

These functions can be customized by changing the input values passed when calling them, and you can add more functionalities or modify the existing ones as per your requirements.