1. **Write PHP scripts that demonstrate fundamentals PHP**
    1. **Printing "Hello, World!" on the screen:**

```
<?php
   echo "Hello, World!";
?>
```

Output:-

Hello, World!

2. **Defining and using variables:**

```
<?php
   $name = "Namrata";
   $roll = 80;
   echo "My name is " . $name . " and My Roll Number is " . $roll;
   ?>
```

Output:-

My name is Namrata and My Roll Number is 80.

3. **Performing arithmetic operations:**

```
<?php
   $num1 = 10;
   $num2 = 5;
   echo "Addition: " . ($num1 + $num2) . "<br>";
   echo "Subtraction: " . ($num1 - $num2) . "<br>";
   echo "Multiplication: " . ($num1 * $num2) . "<br>";
   echo "Division: " . ($num1 / $num2) . "<br>";
?>
```

Output:-

Addition: 15
Subtraction: 5
Multiplication: 50
Division: 2

4. **Using conditional statements:**

```
<?php
   $num = 10;
   if ($num > 0) {
      echo "The number is positive.";
   } else if ($num < 0) {
      echo "The number is negative.";
   } else {
      echo "The number is zero.";
   }
?>
```

Output:-

The number is positive.

5. Using loops:

```
<?php
   // while loop
   $num = 1;
   while ($num <= 5) {
      echo $num . "<br>";
      $num++;
   }

   // for loop
   for ($i = 1; $i <= 5; $i++) {
      echo $i . "<br>";
   }

   // foreach loop
   $colors = array("red", "green", "blue");
   foreach ($colors as $color) {
      echo $color . "<br>";
   }
?>
```

Output:-

```
1
2
3
4
5
1
2
3
4
5
red
green
blue
```

6. Defining and calling functions:

```
<?php
   function square($num) {
      return $num * $num;
   }

   $result = square(5);
   echo "The square of 5 is " . $result;
?>
```

Output:-

```
The square of 5 is 25.
```

2. **Write PHP script that will display grade based on criteria given below using the marks obtained in Examination.**

```
<?php
$marks = 85; // replace with the actual marks obtained

if ($marks >= 90) {
  echo "Grade A+";
} elseif ($marks >= 80) {
  echo "Grade A";
} elseif ($marks >= 70) {
  echo "Grade B+";
} elseif ($marks >= 60) {
  echo "Grade B";
} elseif ($marks >= 50) {
  echo "Grade C+";
} elseif ($marks >= 40) {
  echo "Grade C";
} else {
  echo "Fail";
}
?>
```

Output:-

Grade A.

3. **Write a PHP script to demonstrate different String functions.**

```
<?php
$string = "The quick brown fox jumps over the lazy dog.";

// Length of the string
echo "Length of the string: " . strlen($string) . "<br>";

// Convert string to uppercase
echo "Uppercase: " . strtoupper($string) . "<br>";

// Convert string to lowercase
echo "Lowercase: " . strtolower($string) . "<br>";

// Replace a substring
echo "Replace 'fox' with 'cat': " . str_replace("fox", "cat", $string) . "<br>";

// Substring
echo "Substring from index 4 to 15: " . substr($string, 4, 11) . "<br>";

// Split a string into an array
echo "Split string into an array: ";
print_r(explode(" ", $string));

// Join an array into a string
$array = array("The", "quick", "brown", "fox", "jumps", "over", "the", "lazy", "dog.");
echo "<br>Join array into a string: " . implode(" ", $array);
?>
```

Output:-

Length of the string: 44

Uppercase: THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

Lowercase: the quick brown fox jumps over the lazy dog.

Replace 'fox' with 'cat': The quick brown cat jumps over the lazy dog.

Substring from index 4 to 15: quick brown

Split string into an array: Array ([0] => The [1] => quick [2] => brown [3] => fox [4] => jumps [5] => over [6] => the [7] => lazy [8] => dog.)

Join array into a string: The quick brown fox jumps over the lazy dog.

4. Write a PHP script to Demonstrate OOPS Concept in PHP.

```
<?php

   // Define a class named 'Person'
   class Person
   {

      // Define the properties of the class
      public $name;
      public $age;

      // Define a constructor method for the class
      public function __construct($name, $age)
      {
         $this->name = $name;
         $this->age = $age;
      }

      // Define a method to display the person's name and age
      public function displayInfo()
      {
         echo "Name: " . $this->name . "<br>";
         echo "Age: " . $this->age . "<br>";
      }
   }

   // Define a class named 'Student' that extends the 'Person' class
   class Student extends Person
   {

      // Define additional properties of the class
      public $rollNo;
      public $marks;

      // Define a constructor method for the class
      public function __construct($name, $age, $rollNo, $marks)
      {
         parent::__construct($name, $age);
         $this->rollNo = $rollNo;
         $this->marks = $marks;
      }

      // Define a method to display the student's information
      public function displayStudentInfo()
      {
         echo "Name: " . $this->name . "<br>";
         echo "Age: " . $this->age . "<br>";
         echo "Roll Number: " . $this->rollNo . "<br>";
         echo "Marks: " . $this->marks . "<br>";
      }
```

```
    }

    // Create an instance of the 'Person' class
    $person = new Person("Namrata Patil", 21);

    // Call the 'displayInfo()' method of the 'Person' class
    $person->displayInfo();

    // Create an instance of the 'Student' class
    $student = new Student("Lokesh Rajput", 20, "99", 85);

    // Call the 'displayInfo()' method of the 'Person' class from the 'Student' class
    $student->displayInfo();

    // Call the 'displayStudentInfo()' method of the 'Student' class
    $student->displayStudentInfo();
?>
```

Output:-

```
Name: Namrata Patil
Age: 21
Name: Lokesh Rajput
Age: 20
Name: Lokesh Rajput
Age: 20
Roll Number: 99
Marks: 85
```

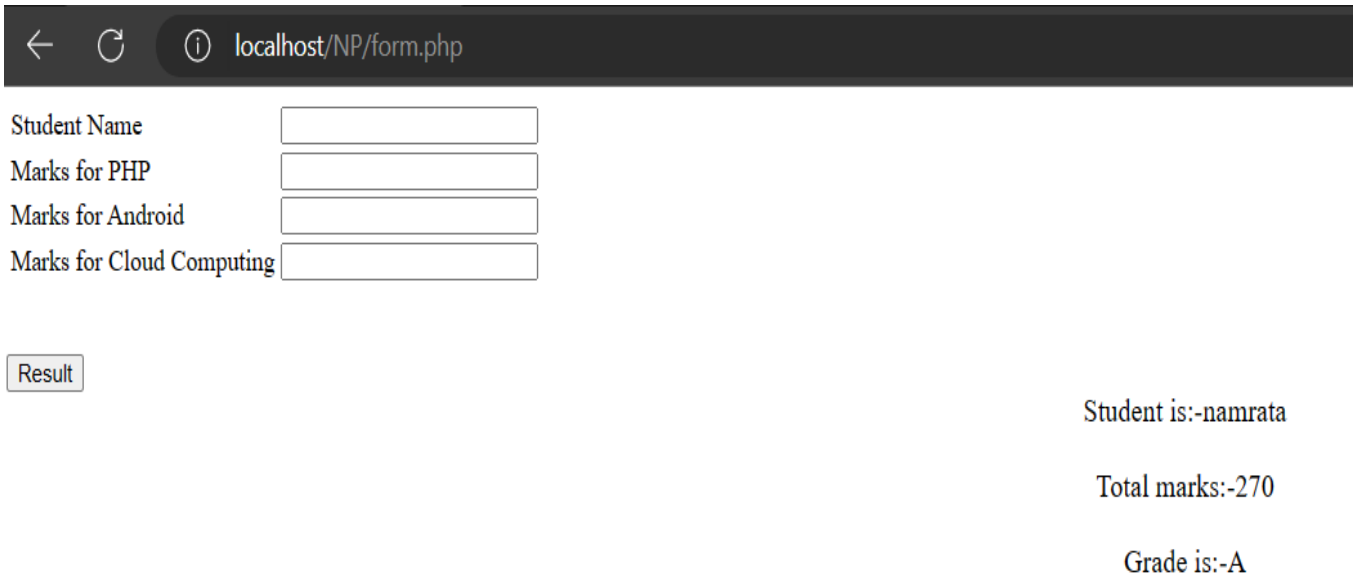
5. **Write a PHP script to demonstrate Form Data Handling using Get and Post methods.**

A. POST Method.

```
<html>

<body>
   <form action="" method="post">
            <table border=0>
          <tr>
            <td>
               Student Name
            </td>
            <td>
               <input type=text name="t1">
            </td>
          </tr>
          <tr>
            <td>
               Marks for PHP
            </td>
            <td>
               <input type=text name="t2">
            </td>
          </tr>
          <tr>
            <td>
               Marks for Android
            </td>
            <td>
               <input type=text name="t3">
            </td>
          </tr>
          <tr>
            <td>
               Marks for Cloud Computing
            </td>
            <td>
               <input type=text name="t4">
            </td>
          </tr>
        </table>
        <br>
        <br>
        <input type=submit name="s" value="Result">
      <?php
      if (isset($_POST['s'])) ////checking whether the input element is set or not
      {
        $a = $_POST['t1']; //accessing value from 1st text box
        $a1 = $_POST['t2']; //accessing value from 2nd text field
```

```
        $a2 = $_POST['t3']; //accessing value from 3rd text field
        $a3 = $_POST['t4']; //accessing value from 4th text field
        $sum = $a1 + $a2 + $a3; //total marks
        $avg = $sum / 3;
        if ($avg >= 0 && $avg <= 50)
            $grade = "Fail";
        if ($avg > 50 && $avg <= 70)
            $grade = "C";
        if ($avg > 70 && $avg <= 80)
            $grade = "B";
        if ($avg > 80 && $avg <= 90)
            $grade = "A";
        if ($avg > 90)
            $grade = "E";
        echo "<br>";
        echo "<font size=4><center>Student is:-" . $a . "</center><br>";
        echo "<font size=4><center>Total marks:-" . $sum . "</center><br>";
        echo "<font size=4><center>Grade is:-" . $grade . "</center>";
    }
    ?>
  </form>

</body>

</html>
```

Output:-

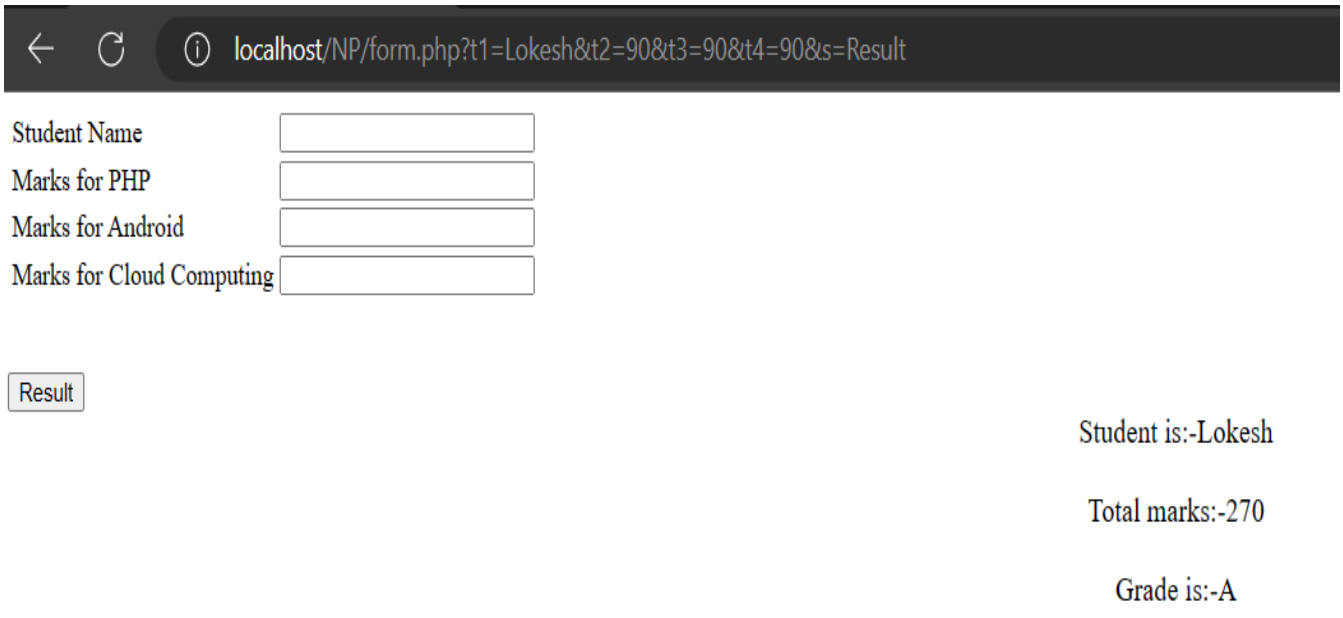


B. GET Method.

```
<html>

<body>
   <form action="" method="get">

      <table border=0>
         <tr>
            <td>
               Student Name
            </td>
            <td>
               <input type=text name="t1">
            </td>
         </tr>
         <tr>
            <td>
               Marks for PHP
            </td>
            <td>
               <input type=text name="t2">
            </td>
         </tr>
         <tr>
            <td>
               Marks for Android
            </td>
            <td>
               <input type=text name="t3">
            </td>
         </tr>
         <tr>
            <td>
               Marks for Cloud Computing
            </td>
            <td>
               <input type=text name="t4">
            </td>
         </tr>
      </table>
      <br>
      <br>
      <input type=submit name="s" value="Result">

      <?php
      if (isset($_GET['s'])) ////checking whether the input element is set or not
      {
         $a = $_GET['t1']; //accessing value from 1st text box
         $a1 = $_GET['t2']; //accessing value from 2nd text field
```

```
        $a2 = $_GET['t3']; //accessing value from 3rd text field
        $a3 = $_GET['t4']; //accessing value from 4th text field
        $sum = $a1 + $a2 + $a3; //total marks
        $avg = $sum / 3;
        if ($avg >= 0 && $avg <= 50)
           $grade = "Fail";
        if ($avg > 50 && $avg <= 70)
           $grade = "C";
        if ($avg > 70 && $avg <= 80)
           $grade = "B";
        if ($avg > 80 && $avg <= 90)
           $grade = "A";
        if ($avg > 90)
           $grade = "E";
        echo "<br>";
        echo "<font size=4><center>Student is:-" . $a . "</center><br>";
        echo "<font size=4><center>Total marks:-" . $sum . "</center><br>";
        echo "<font size=4><center>Grade is:-" . $grade . "</center>";
      }
      ?>
   </form>

</body>

</html>
```

Output:-



6. **Design a database in MYSQL. Create table in database. Store, Update, Delete and Retrieve data from the table. Display the data from the table.**

1. **Create a database**

```
CREATE DATABASE library;
```

2. **Create tables in the database**

```
CREATE TABLE books (
   book_id INT(11) NOT NULL AUTO_INCREMENT,
   book_title VARCHAR(255) NOT NULL,
   author VARCHAR(255) NOT NULL,
   publisher VARCHAR(255) NOT NULL,
   category VARCHAR(255) NOT NULL,
   PRIMARY KEY (book_id)
);

CREATE TABLE users (
   user_id INT(11) NOT NULL AUTO_INCREMENT,
   first_name VARCHAR(255) NOT NULL,
   last_name VARCHAR(255) NOT NULL,
   email VARCHAR(255) NOT NULL,
   phone_number VARCHAR(20) NOT NULL,
   address VARCHAR(255) NOT NULL,
   PRIMARY KEY (user_id)
);

CREATE TABLE borrowed_books (
   borrow_id INT(11) NOT NULL AUTO_INCREMENT,
   user_id INT(11) NOT NULL,
   book_id INT(11) NOT NULL,
   borrow_date DATE NOT NULL,
   return_date DATE NOT NULL,
   PRIMARY KEY (borrow_id),
   FOREIGN KEY (user_id) REFERENCES users(user_id),
   FOREIGN KEY (book_id) REFERENCES books(book_id)
);
```

3. **Define the fields in the tables**

- The books table has the following fields:

book_id: an auto-incremented integer that serves as the primary key
book_title: the title of the book
author: the name of the book's author
publisher: the name of the book's publisher
category: the category of the book (e.g. science fiction, romance, etc.)

- The users table has the following fields:

user_id: an auto-incremented integer that serves as the primary key
first_name: the user's first name
last_name: the user's last name
email: the user's email address
phone_number: the user's phone number
address: the user's address

- The borrowed_books table has the following fields:

borrow_id: an auto-incremented integer that serves as the primary key
user_id: the ID of the user who borrowed the book
book_id: the ID of the borrowed book
borrow_date: the date the book was borrowed
return_date: the date the book is due to be returned

4. **Establish relationships between tables if necessary**

Insert data into the books table:

```
INSERT INTO books (book_title, author, publisher, category)
VALUES ('The Great Gatsby', 'F. Scott Fitzgerald', 'Charles Scribner\'s Sons', 'Classics');
```

Update data in the **users** table:

```
UPDATE users
SET phone_number = '123-456-7890'
WHERE user_id = 1;
```

Delete data from the borrowed_books table:

```
DELETE FROM borrowed_books
WHERE book_id = 1;
```

Retrieve data from the books table:

```
SELECT *
FROM books;
```

7. **Write a PHP script to store, retrieve and delete cookies on your local machine.**

```
<?php

// Set a cookie
setcookie("username", "John Doe", time() + (86400 * 30), "/");

// Retrieve a cookie
if(isset($_COOKIE["username"])) {
  echo "Welcome " . $_COOKIE["username"] . "!<br>";
} else {
  echo "No cookie found.<br>";
}
?>
```

Output:-

Welcome Namrata!

```
<?php

// Delete a cookie
setcookie("username", "", time() - 3600, "/");

?>
```

Output:-

No cookie found.

8. Write a PHP script to store, retrieve and delete data using session variables.

```
<?php
session_start();

// Set session variables
$_SESSION["username"] = "JohnDoe";
$_SESSION["email"] = "johndoe@example.com";

// Retrieve session variables
$username = $_SESSION["username"];
$email = $_SESSION["email"];

echo "Username: " . $username . "<br>";
echo "Email: " . $email . "<br>";

// Delete session variables
unset($_SESSION["username"]);
unset($_SESSION["email"]);
?>
```

Output:-

Username: Lokesh

Email: lokesh123@gmail.com

9. Write PHP Script Demonstrate Consrtuctor And Destructor in PHP.

A. Consrtuctor

```
<?php
class c1
{
   public $name;
   public $id;
  public function __construct($name, $id)
   {
      echo   $this->name = $name . "<br>";
      echo $this->id = $id;
   }
}
$c1 = new c1("harshali", 107);
?>
```

Output:-

```
harshali
107
```

B. Destructor

```
<?php
class abc
{
  public function hello()
  {
     echo "hello everyone\n";
  }
  public function __destruct()
  {
     echo "this is destruct function\n";
  }
}
$obj = new abc();
$obj->hello();
?>
```

Output:-

```
hello everyone this is destruct function.
```

10. Write PHP Script Demonstrate Database Connectivity And Insert Data In Database.

A. Create Form register.php

```
<html>
  <body>
    <center>
<form action="register_a.php" method="post"
      <fieldset>
        <legend> Sign Up</legend>
        Name:-
        <input type="text" name="name"><br><br>
        Password
        <input type="password" name="pass"><br><br>
        <input type="submit" value="Sing Up" name="submit"><br><br>
      </fieldset>
    </form>
    </center>
  </body>
  </html>
```

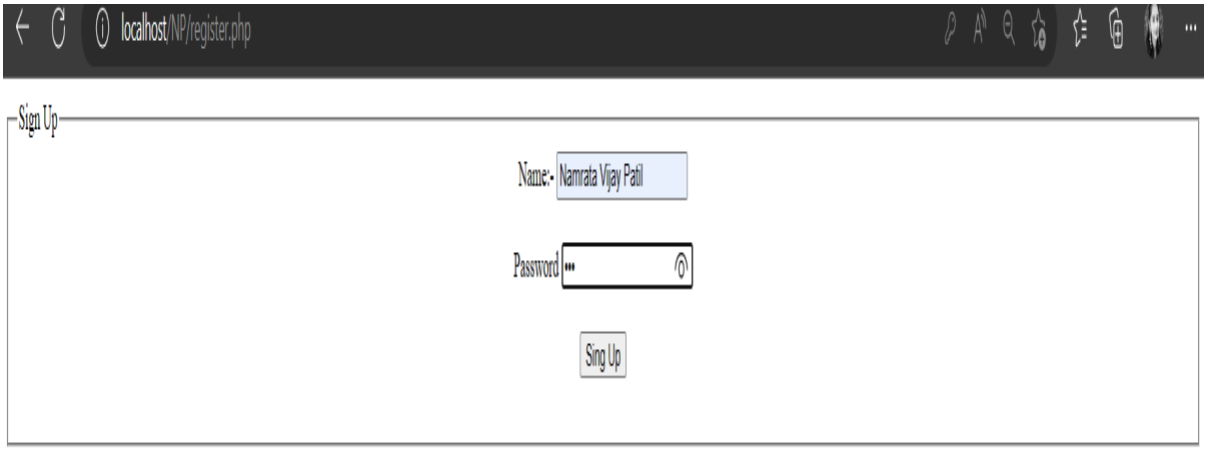
B. Connection To Database config.php

```
<?php
$dbhost = 'localhost';
$dbname = 'bca';
$dbuser = 'root';
$dbpass = '';
$mysqli = mysqli_connect($dbhost,$dbuser,$dbpass,$dbname);
?>
```

C. Insert Data In Database register_a.php

```
<?php
include("config.php");
if(isset($_POST['submit']))
{
  $name = $_POST['name'];
  $password = $_POST['pass'];
  $result = mysqli_query($mysqli,"insert into abc values('$name','$password')");
  if($result)
  {
    echo "Successfully";
  }
  else
  {
    echo "failed";
  }
}
?>
```

Output:-



Successfully

11. Write PHP Script Demonstrate Class And Object.

```
<?php
class Myclass
{
 public $font_size ="18px";
 public $font_color = "blue";
 public $string_name = "w3resource";
 public function customize_print()
 {
 echo "<p style=font-size:".$this->font_size.";color:".$this->font_color.";>".$this-
>string_name."</p>";
 }
}
$f = new MyClass;
$f->font_size = "20px";
$f->font_color = "red";
$f->string_name = "Object Oriented Programming";
echo $f->customize_print();
?>
```

Output:-

Object Oriented Programming.