1. Create a PHP program using `switch` to print a grade for marks input (A, B, C, Fail).

Ans:

```php
<?php
$marks = readline("Enter Marks: ");
switch (true) {
    case ($marks >= 90):
        print("Grade A");
        break;
    case ($marks >=75 && $marks < 90):
        print("Grade B");
        break;
    case ($marks >= 35 && $marks < 60):
        print("Grade C");
        break;
    default:
        print("Fail");
        break;
}
?>
```

```
# php grade.php
Enter Marks: 85
Grade B
```

2. Use `while` loop to sum the first 10 even numbers.

Ans:

```php
<?php
$count = 0;
$sum = 0;
$num = 2;
while($count < 10) {
    $sum += $num;
    $num = $num + 2;
    $count++;
}
echo "Sum of fisrt 10 even number = $sum"
?>
```

Sum of fisrt 10 even number = 110

3. Write PHP Script to display sum of digit of entered number

Ans:

```php
<?php
$num = readline("Enter Number: ");
$n = $num;
$rem = 0;
$sum = 0;
while($num>0) {
    $rem = $num%10;
    $sum = $sum + $rem;
    $num = (int)($num/10);
}
echo "Sum of $n is $sum";
?>
```

```
# php sumdigit.php
Enter Number: 123
Sum of 123 is 6
```

4. Write a PHP program to display multiplication table of number ‘n’.

Ans:

```php
<?php
$num = readline("Enter Number: ");
echo "Multiplication Table of $num is : \n";
$i = 1;
while($i <= 10) {
    echo "$num * $i = ".($num*$i). "\n";
    $i++;
}
?>
```

```
# php multi.php
Enter Number: 10
Multiplication Table of 10 is :
10 * 1 = 10
10 * 2 = 20
10 * 3 = 30
10 * 4 = 40
10 * 5 = 50
10 * 6 = 60
10 * 7 = 70
10 * 8 = 80
10 * 9 = 90
10 * 10 = 100
```

5. Write a PHP program to display multiplication table of 1 to 5

Ans:

```php
<?php
for($i = 1; $i <=5; $i++) {
    echo "Multiplication Table of $i : \n";
    for($j = 1; $j <= 10; $j++) {
        echo "$i * $j = ".($i*$j)."\n";
    }
}
?>
```

```
Multiplication Table of 1 :
1 * 1 = 1
1 * 2 = 2
1 * 3 = 3
1 * 4 = 4
1 * 5 = 5
1 * 6 = 6
1 * 7 = 7
1 * 8 = 8
1 * 9 = 9
1 * 10 = 10
Multiplication Table of 2 :
2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
2 * 4 = 8
2 * 5 = 10
2 * 6 = 12
2 * 7 = 14
2 * 8 = 16
2 * 9 = 18
2 * 10 = 20
```

6. Write a `foreach` loop to print values of an indexed and associative array.

Ans:

```php
<?php
$fruit = ["Apple","Banana","Mango"];
echo "Indexed Array : <br>";
foreach($fruit as $fruits) {
    echo $fruits."<br>";
}
echo "<br>";
$name = array(
    "Siddharth"=>18,
    "Aditya"=>19
);
echo "Associative Array: <br>";
foreach($name as $key=>$value) {
    echo "$key => $value <br>";
}
?>
```

Indexed Array :
Apple
Banana
Mango

Associative Array:
Siddharth => 18
Aditya => 19

7. Create an associative array for student names and grades, display them using a loop.

Ans:

```php
<?php
$student = array(
    "Siddharth"=>"A Grade",
    "Aditya"=>"B Grade"
);
foreach($student as $key=>$value) {
    echo "$key => $value <br>";
}
?>
```

Siddharth => A Grade
Aditya => B Grade

8. Write a program using multidimensional arrays to store student records (Name, Roll No, Marks) and print them.

Ans:

```php
<?php
$students = array(
    array("Name" => "Siddharth", "Rollno" => 41, "Marks" => 95),
    array("Name" => "Aditya", "Rollno" => 42, "Marks" => 95),
);
foreach ($students as $key => $value) {
    echo "Name = " . $value["Name"] . " & Rollno = " . $value["Rollno"] . "
& Marks = " . $value["Marks"] . "<br>";
}
?>
```

Name = Siddharth & Rollno = 41 & Marks = 95
Name = Aditya & Rollno = 42 & Marks = 95

9. Write a program using multidimensional arrays to store user records (Name, email id, mobile no and address) and print them.

Ans:

```php
<?php
$emp = array(
    array("Name" => "Siddharth","Email" => "sid@gmail.com","Mobile" =>
"8928867696","Address" => "Kalyan"),
    array("Name" => "Aditya","Email" => "adi@gmail.com","Mobile" =>
"9321077322","Address" => "Kalyan"),
);
foreach($emp as $key => $value) {
    echo "Name = ".$value["Name"]." Email = ".$value["Email"]." Mobile =
".$value["Mobile"]." Address = ".$value["Address"]."<br>";
}
?>
```

Name = Siddharth Email = sid@gmail.com Mobile = 8928867696 Address = Kalyan
Name = Aditya Email = adi@gmail.com Mobile = 9321077322 Address = Kalyan

10. Write a PHP program to calculate the length of a string and to count words without using `str_word_count()`.

Ans:

```php
<?php
$str = readline("Enter a String: ");
$length = strlen($str);
$words = explode(" ",$str);
$wordcount = 0;
foreach($words as $word) {
    if(trim($word)!="") {
        $wordcount++;
    }
}
echo "String = ".$str."\n";
echo "Length  = ".$length."\n";
echo "Word Count = ".$wordcount."\n";
?>
```

```
# php strlength.php
Enter a String: Welcome to the php world
String = Welcome to the php world
Length  = 24
Word Count = 5
```

11. Write a parameterized function to calculate the sum of two numbers.

Ans:

```php
<?php
function add($a,$b) {
    echo "$a + $b = ".($a+$b);
}
add(readline("Enter first number : ") , readline("Enter Second Number : "))
?>
```

```
# php sumpara.php
Enter first number : 10
Enter Second Number : 20
10 + 20 = 30
```

12. Implement an anonymous function to print a string.

Ans:

```php
<?php
$print = function($str) {
    echo "$str";
};
$print(readline("Enter a String: "));
?>
```

```
# php annoy.php
Enter a String: Welcome to the php world
Welcome to the php world
```

13. Implement single inheritance in PHP (parent class: student and child class: Test1) and Display details of student with test result

Ans:

```php
<?php
class student {
    public $name,$rollno;
    function get_data() {
        $this->name = readline("Enter Name = ");
        $this->rollno = readline("Enter Rollno = ");
    }
}
class Test1 extends student {
    public $marks;
    function getMarks() {
        $this->get_data();
        $this->marks = readline("Enter Test Marks : ");
    }
    function display() {
        print("Name = ".$this->name."\n");
        print("Rollno = ".$this->rollno."\n");
        print("Marks = ".$this->marks."\n");
    }
}
$obj = new Test1();
$obj->getMarks();
$obj->display();
?>
```

```
siddh@SIDDHARTH C:\xampp\htdocs\PHP Practical
# php single.php
Enter Name = Siddharth Shah
Enter Rollno = 41
Enter Test Marks : 95
Name = Siddharth Shah
Rollno = 41
Marks = 95
```

14. Implement multilevel inheritance in PHP (parent class: student → child class: Tests→result) and Display result of student for two class test percentage and average of test1 and test2 subject wise.

Ans:

```php
<?php
class Student {
    public $name, $roll;

    function getDetails() {
        $this->name = readline("Enter student name: ");
        $this->roll = readline("Enter roll number: ");
    }
}
class Tests extends Student {
    public $test1 = [], $test2 = [];

    function getMarks() {
        $this->test1['Math'] = readline("Enter Test1 Math marks: ");
        $this->test1['Science'] = readline("Enter Test1 Science marks: ");
```

```php
        $this->test2['Math'] = readline("Enter Test2 Math marks: ");
        $this->test2['Science'] = readline("Enter Test2 Science marks: ");
    }
}
class Result extends Tests {
    function displayResult() {
        echo "Name: $this->name\n";
        echo "Roll No: $this->roll\n";
        foreach ($this->test1 as $subject => $mark1) {
            $mark2 = $this->test2[$subject];
            $avg = ($mark1 + $mark2) / 2;
            $percentage = (($mark1 + $mark2) / 200) * 100;
            echo "$subject - Avg: $avg, Percentage: $percentage%\n";
        }
    }
}
$obj = new Result();
$obj->getDetails();
$obj->getMarks();
$obj->displayResult();
?>
```

```
# php multilevel.php
Enter student name: Siddharth
Enter roll number: 41
Enter Test1 Math marks: 85
Enter Test1 Science marks: 90
Enter Test2 Math marks: 95
Enter Test2 Science marks: 100
Name: Siddharth
Roll No: 41
Math - Avg: 90, Percentage: 90%
Science - Avg: 95, Percentage: 95%
```

15. Write a PHP script to demonstrate any five-class introspection using

Ans:

```php
<?php
class Demo {
    public $x = 10;
    function hello() {
        echo "Hello";
    }
}
$obj = new Demo();
echo get_class($obj)."<br>";
print_r(get_class_methods($obj));
echo "<br>";
echo method_exists($obj,"hello")."<br>";
echo class_exists("Demo")."<br>";
echo property_exists($obj,"x")."<br>";
?>
```

```
Demo
Array ( [0] => hello )
1
1
1
```

16. Create a class product with data members id, name and price. Consider that customer bought multiple products. Then Calculate the total price of products purchased. Use constructor

Ans:

```php
<?php
class Product {
    public $id,$name,$price;
    function __construct($id,$name,$price) {
        $this->id = $id;
        $this->name = $name;
        $this->price = $price;
    }
}
$total = 0;
$n = readline("Enter Number of Product Purchased : ");
for($i = 0; $i < $n; $i++) {
    $id = readline("Enter Id: ");
    $name = readline("Enter Name: ");
    $price = readline("Enter Price: ");
    $product = new Product($id,$name,$price);
    $total += $product->price;
}
echo "Total Price = $total";
?>
```

```
# php product.php
Enter Number of Product Purchased : 4
Enter Id: 101
Enter Name: Soap
Enter Price: 100
Enter Id: 102
Enter Name: Perfume
Enter Price: 300
Enter Id: 103
Enter Name: Sugar
Enter Price: 200
Enter Id: 104
Enter Name: Detergent
Enter Price: 80
Total Price = 680
```

17. Write a program to serialize and unserialize an array/object.

Ans:

```php
<?php
$data = serialize(array('Welcome' , 'to' , 'PHP'));
print_r($data);
echo "<br>";
$udata = unserialize($data);
print_r($udata);
?>
```

a:3:{i:0;s:7:"Welcome";i:1;s:2:"to";i:2;s:3:"PHP";}
Array ([0] => Welcome [1] => to [2] => PHP)

18. Design a form for user registration and validate fields like email, password, and phone using PHP.

Ans:

```php
<!DOCTYPE html>
<html>
<head>
    <title>User Registration</title>
</head>
<body>
    <h2>User Registration Form</h2>
    <?php
    $email = $password = $phone = "";
    $emailErr = $passErr = $phoneErr = "";
    if ($_SERVER["REQUEST_METHOD"] == "POST") {
        if (empty($_POST["email"])) {
            $emailErr = "Email is required";
        } elseif (!filter_var($_POST["email"], FILTER_VALIDATE_EMAIL)) {
            $emailErr = "Invalid email format";
        } else {
            $email = $_POST["email"];
        }
        if (empty($_POST["password"])) {
            $passErr = "Password is required";
        } elseif (strlen($_POST["password"]) < 6) {
            $passErr = "Password must be at least 6 characters";
        } else {
            $password = $_POST["password"];
        }
        if (empty($_POST["phone"])) {
            $phoneErr = "Phone number is required";
        } elseif (!preg_match("/^[0-9]{10}$/", $_POST["phone"])) {
            $phoneErr = "Phone number must be 10 digits";
        } else {
            $phone = $_POST["phone"];
        }
        if ($email && $password && $phone) {
            echo "<h3>Registration Successful!</h3>";
            echo "Email: $email<br>";
            echo "Password: $password<br>";
            echo "Phone: $phone<br><br>";
```

```
        }
    }
    ?>
    <form method="post" action="">
        Email: <input type="text" name="email" value="<?php echo $email;
?>">
        <span><?php echo $emailErr; ?></span><br><br>
        Password: <input type="password" name="password" value="<?php echo
$password; ?>">
        <span><?php echo $passErr; ?></span><br><br>
        Phone: <input type="text" name="phone" value="<?php echo $phone;
?>">
        <span><?php echo $phoneErr; ?></span><br><br>
        <input type="submit" value="Register">
    </form>
</body>
</html>
```

User Registration Form

Registration Successful!

Email: siddharthshah160606@gmail.com
Password: sid@1666
Phone: 8928867696

Email: siddharthshah160606@gm

Password: ••••••••

Phone: 8928867696

Register

19. Design a form for user registration and retrieve information on successful submission using PHP.

Ans:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <form action="" method="post">
        Name : <input type="text" name="name" required><br>
        Email: <input type="text" name="email" required><br>
        Address: <textarea name="address" required></textarea><br>
        Mobile: <input type="tel" name="mobile" pattern="[0-9]{10}"
required><br>
        <input type="submit" value="Register">
    </form>
    <?php
        if($_SERVER['REQUEST_METHOD']=="POST") {
            echo "Name = ".$_POST["name"]."<br>";
            echo "Email = ".$_POST["email"]."<br>";
            echo "Address = ".$_POST["address"]."<br>";
            echo "Mobile = ".$_POST["mobile"]."<br>";
        }
    ?>
</body>
</html>
```

20. Develop a PHP application to enter student data into a MySQL database. Retrieve and display data from the database in tabular form. Update a record in the database. Delete a specific record from the database.

Ans:

```php
<?php
$servername = "localhost";
$username = "root";
$password = "";
$database = "Student";
$conn = mysqli_connect($servername, $username, $password, $database);
if (!$conn) {
    die("Connection failed: " . mysqli_connect_error());
}
// Insert Data
if (isset($_POST['insert'])) {


    $name = $_POST['name'];
    $email = $_POST['email'];

    $sql = "INSERT INTO user (name, email) VALUES ('$name', '$email')";
    if (mysqli_query($conn, $sql)) {
        echo "Record inserted successfully!";
    } else {
        echo "Error: " . mysqli_error($conn);
    }
}
// Update Data
if (isset($_POST['update'])) {
    $id = $_POST['id'];
    $name = $_POST['name'];

    $sql = "UPDATE user SET name='$name' WHERE id=$id";
    if (mysqli_query($conn, $sql)) {
        echo "Record updated successfully!";
    } else {
        echo "Error: " . mysqli_error($conn);
    }
}
// Delete Data
if (isset($_POST['delete'])) {
    $id = $_POST['id'];

    $sql = "DELETE FROM user WHERE id=$id";
    if (mysqli_query($conn, $sql)) {
        echo "Record deleted successfully!";
    } else {
        echo "Error: " . mysqli_error($conn);
    }


}
// Fetch Data
```

```php
$sql = "SELECT * FROM user";
$result = mysqli_query($conn, $sql);
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>PHP MySQL Operations</title>
</head>
<body>
    <h2>Insert Data</h2>
    <form method="POST">
        Name: <input type="text" name="name" required>
        Email: <input type="email" name="email" required>
        <button type="submit" name="insert">Insert</button>
    </form>

    <h2>Update Data</h2>
    <form method="POST">
        ID: <input type="number" name="id" required>
        New Name: <input type="text" name="name" required>
        <button type="submit" name="update">Update</button>
    </form>

    <h2>Delete Data</h2>
    <form method="POST">
        ID: <input type="number" name="id" required>
        <button type="submit" name="delete">Delete</button>
    </form>

    <h2>Users List</h2>
    <table border="1">
        <tr>
            <th>ID</th>
            <th>Name</th>
            <th>Email</th>
        </tr>
        <?php while ($row = mysqli_fetch_assoc($result)) { ?>
        <tr>
            <td><?php echo $row['id']; ?></td>
            <td><?php echo $row['name']; ?></td>
            <td><?php echo $row['email']; ?></td>
        </tr>
        <?php } ?>
    </table>
</body>
</html>
```

21. Develop a PHP application to enter student data into a MySQL database. Retrieve and display data from the database in tabular form. Delete a specific record from the database.

Ans:

```php
<?php
$servername = "localhost";
$username = "root";
$password = "";
$database = "Student";
$conn = mysqli_connect($servername, $username, $password, $database);
if (!$conn) {
    die("Connection failed: " . mysqli_connect_error());
}
// Insert Data
if (isset($_POST['insert'])) {


    $name = $_POST['name'];
    $email = $_POST['email'];

    $sql = "INSERT INTO user (name, email) VALUES ('$name', '$email')";
    if (mysqli_query($conn, $sql)) {
        echo "Record inserted successfully!";
    } else {
        echo "Error: " . mysqli_error($conn);
    }
}
// Update Data
if (isset($_POST['update'])) {
    $id = $_POST['id'];
    $name = $_POST['name'];

    $sql = "UPDATE user SET name='$name' WHERE id=$id";
    if (mysqli_query($conn, $sql)) {
        echo "Record updated successfully!";
    } else {
        echo "Error: " . mysqli_error($conn);
    }
}
// Delete Data
if (isset($_POST['delete'])) {
    $id = $_POST['id'];

    $sql = "DELETE FROM user WHERE id=$id";
    if (mysqli_query($conn, $sql)) {
        echo "Record deleted successfully!";
    } else {
        echo "Error: " . mysqli_error($conn);
    }


}
// Fetch Data
$sql = "SELECT * FROM user";
```

```php
$result = mysqli_query($conn, $sql);
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>PHP MySQL Operations</title>
</head>
<body>
    <h2>Insert Data</h2>
    <form method="POST">
        Name: <input type="text" name="name" required>
        Email: <input type="email" name="email" required>
        <button type="submit" name="insert">Insert</button>
    </form>

    <h2>Update Data</h2>
    <form method="POST">
        ID: <input type="number" name="id" required>
        New Name: <input type="text" name="name" required>
        <button type="submit" name="update">Update</button>
    </form>

    <h2>Delete Data</h2>
    <form method="POST">
        ID: <input type="number" name="id" required>
        <button type="submit" name="delete">Delete</button>
    </form>

    <h2>Users List</h2>
    <table border="1">
        <tr>
            <th>ID</th>
            <th>Name</th>
            <th>Email</th>
        </tr>
        <?php while ($row = mysqli_fetch_assoc($result)) { ?>
        <tr>
            <td><?php echo $row['id']; ?></td>
            <td><?php echo $row['name']; ?></td>
            <td><?php echo $row['email']; ?></td>
        </tr>
        <?php } ?>
    </table>
</body>
</html>
```

//DROP DATABASE *databasename*;