PROGRAM-1

a) Program to display various Server Information like- Server Name, Server Software, Server protocol, CGI Revision etc.

<u>HTML</u>

```
<html>
<form action="http://localhost/cgi-bin/1a.pl">
  <center>
  <input type=submit value=Show_Server_Info/>
  </center>
</form>
</html>
```

<u>PERL FILE</u>

```
#!C:\xampp\perl\bin\perl.exe
print "Content-Type: text/html;charset=iso-8859-1;\n\n";
#this is a here-document
print "<html><table border=1><tr><th>ENV_VARIABLES</th><th>Value</th></tr>";
foreach $i(sort keys %ENV)
{
print "<tr><td>$i</td><td>$ENV{$i}</td></tr>";
}
print "</table></html>";
```

localhost/1a.html ☆

Show_Server_Info/

ENV_VARIABLES	
COMSPEC	C:\Windows\system32\cmd.exe
CONTEXT_DOCUMENT_ROOT	C:/xampp/cgi-bin/
CONTEXT_PREFIX	/cgi-bin/
DOCUMENT_ROOT	C:/xampp/htdocs
GATEWAY_INTERFACE	CGI/1.1
HTTP_ACCEPT	text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q
HTTP_ACCEPT_ENCODING	gzip, deflate, br, zstd
HTTP_ACCEPT_LANGUAGE	en-US,en;q=0.9,en-IN;q=0.8
HTTP_CONNECTION	keep-alive
HTTP_COOKIE	PHPSESSID=ggdci499e3oruuob0b9cbd32v3
HTTP_HOST	localhost
HTTP_REFERER	http://localhost/1a.html
HTTP_SEC_CH_UA	"Chromium";v="130", "Microsoft Edge";v="130", "Not?A_Brand";v="99"
HTTP_SEC_CH_UA_MOBILE	?0
HTTP_SEC_CH_UA_PLATFORM	"Windows"
HTTP_SEC_FETCH_DEST	document
HTTP_SEC_FETCH_MODE	navigate
HTTP_SEC_FETCH_SITE	same-origin
HTTP_SEC_FETCH_USER	?1
HTTP_UPGRADE_INSECURE_REQUESTS	1
HTTP_USER_AGENT	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36 Edg/130.0.0.0
MIBDIRS	C:/xampp/php/extras/mibs
MYSQL_HOME	\xampp\mysql\bin

b) Program to accept UNIX command from a HTML form and to display the output of the command executed.

HTML


```
<html>

<form action="http://localhost/cgi-bin/1ba.pl">
<!-- input command name-->
<input type=text name=com>
<input type=submit value=submit />
</form>

</html>
```


PERL FILE


```
#!"\xampp\perl\bin\perl.exe"
use CGI':standard';
print "Content-type:text/html\n\n";
$c=param('com');
system($c);
exit(0);
```

OUTPUT

date [_____] submit

_____

The current date is: 04-11-2024 Enter the new date: (dd-mm-yy)

PROGRAM-2

a) Program to accept the User Name and display a greeting message.

HTML

```
<html>
<form action="http://localhost/cgi-bin/2a.pl">
<center>
<h2>Enter your name:</h2>
<input type=text name=name>
<input type=submit value=sumbit>
</center>
</form>
</html>
```

PERL FILE

```
#!C:\xampp\perl\bin\perl.exe
use strict;
use warnings;
use CGI qw(:standard);
my $cmd=param('name');
my @greet=("Hello","Hi","Nice to meet you");
my $index=int rand scalar@greet;
print"Content-type: text/html;charset=iso-8859-1;\n\n";
print<<"here";
<html>
<center>
<h2>$cmd,$greet[$index]</h2>
```

</center>

</html>

here

<u>OUTPUT</u>

Enter your name:

| ABC | sumbit |

ABC,Hello

b) Program to keep track of the number of visitors visited the webpage and display the counter with proper headings.

<u>HTML</u>

```html
<html>
  <body>
    <form action="http://localhost/cgi-bin/2b.pl">
      <input type="submit" value="Show">
    </form>
  </body>
</html>
```

<u>PERL FILE</u>

```perl
#!C:\xampp\perl\bin\perl.exe
use CGI':standard';
print "Content-type: text/html;charset=iso-8859-1;\n\n";
```

```
open(FILE,'<count.txt');

$count=<FILE>;

close(FILE);

$count++;

open(FILE,'>count.txt');

print FILE "$count";

print "This page has been viewed $count times";
```

OUTPUT

[Show]

This page has been viewed 6 times

PROGRAM-3

Program to display a greeting based on the access time of the Web server. Also to verify whether the webmaster is currently logged in.

<u>HTML</u>

```
<form action="http://localhost/cgi-bin/3.pl">
  <center>
    <input type="submit" value="Check status">
  </center>
</form>
```

<u>PERL FILE</u>

```perl
#!C:\xampp\perl\bin\perl.exe
use CGI;
my $cgi=CGI->new;
my $cookie_name = 'webmaster_logged_in';
my $status=$cgi->cookie($cookie_name);
print "Content-type:text/html;\n\n";
if($status){
    print "Logged in";
}else{
    print "Logged out";
}
($s,$m,$h)=localtime(time);
print "<br>";
if($h<12){
    print "Good Morning";
}else{
    print "Good Evening";
}
```

OUTPUT

[Check status]

Logged out
Good Morning

4. Program to display a digital clock which displays the current time of the server.

```html
<!DOCTYPE html>
<html>

<head>
    <meta http-equiv="refresh" content="1">
    <style>
        body {
            position: absolute;
            top: 50%;
            left: 50%;
            transform: translate(-50%, -50%);
            background-color: black;
            color: white;
            font-size: 50px;
        }
    </style>
</head>

<body>
    <div>
        <?php
        date_default_timezone_set("Asia/Calcutta");
        echo date("h:i:s a");
        ?>
    </div>
</body>

</html>
```

Output:

02 : 25 : 31 pm

5. Program to display the current contents of the table in a database.

```html
<!DOCTYPE html>
<html>
```

```php
<head>
    <title>Display Table Contents</title>
    <style>
        table {
            border-collapse: collapse;
            width: 80%;
            margin: 20px auto;
        }
        table, th, td {
            border: 1px solid black;
            padding: 10px;
            text-align: center;
        }
        th {
            background-color: #4CAF50;
            color: white;
        }
        td {
            background-color: #f2f2f2;
        }
    </style>
</head>
<body>

<?php
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "books";
$table = "book";

$conn = new mysqli($servername, $username, $password, $dbname);

if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

$sql = "SELECT * FROM $table";
$result = $conn->query($sql);

if ($result->num_rows > 0) {
    echo "<table><tr>";

    while ($fieldinfo = $result->fetch_field()) {
        echo "<th>" . $fieldinfo->name . "</th>";
    }
```

```php
        echo "</tr>";

        while ($row = $result->fetch_assoc()) {
            echo "<tr>";
            foreach ($row as $cell) {
                echo "<td>" . htmlspecialchars($cell) . "</td>";
            }
            echo "</tr>";
        }
        echo "</table>";
    } else {
        echo "No records found in the table.";
    }


    $conn->close();
    ?>


    </body>
    </html>
```

(NOTE: Create a database and change the $books to the database name accordingly. Same for the table within the database)

Output:

access_number	title	authors	edition	publication
1	CN	Tanenbaum	4	Pearson
2	Operatin Systems	Galvin	8	Pearson

6. Program, to insert new name and age information entered by the user into the database

```php
<?php
// Database credentials
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "student";

// Create a connection
$conn = new mysqli($servername, $username, $password, $dbname);

// Check connection
```

```php
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Handle form submission
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // Retrieve name and age from the form
    $name = $_POST['name'];
    $age = $_POST['age'];

    // Prepare and bind
    $stmt = $conn->prepare("INSERT INTO student (name, age) VALUES (?, ?)");
    $stmt->bind_param("si", $name, $age);  // "si" indicates the data types
(string, integer)

    // Execute the query
    if ($stmt->execute()) {
        echo "<p>New record created successfully</p>";
    } else {
        echo "<p>Error: " . $stmt->error . "</p>";
    }

    // Close the statement
    $stmt->close();
}

// Close the connection
$conn->close();
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Student Form</title>
</head>
<body>
    <h2>Enter Student Details</h2>
    <form action="" method="post">
        <label for="name">Name:</label>
        <input type="text" id="name" name="name" required>
        <br><br>
        <label for="age">Age:</label>
        <input type="number" id="age" name="age" required>
        <br><br>
```

```html
        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

Output:

Enter Student Details

Name: [abc]

Age: [33]

[Submit]

(Check the database to see the changes made after submitting)

7. Program to query the data base and to display the result on a webpage.

```php
<?php
// Database credentials
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "student";

// Create a connection
$conn = new mysqli($servername, $username, $password, $dbname);

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Initialize an empty variable for results
$resultData = [];

// Handle form submission
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // Retrieve the SQL query from the form
    $query = $_POST['query'];

    // Execute the query
    if ($result = $conn->query($query)) {
```

```php
        // Fetch the results into an associative array
        while ($row = $result->fetch_assoc()) {
            $resultData[] = $row;
        }
        // Free result set
        $result->free();
    } else {
        echo "<p>Error: " . $conn->error . "</p>";
    }
}

// Close the connection
$conn->close();
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Query Student Table</title>
</head>
<body>
    <h2>Execute SQL Query</h2>
    <form action="" method="post">
        <label for="query">SQL Query:</label><br>
        <textarea id="query" name="query" rows="4" cols="50" required>
</textarea>
        <br><br>
        <input type="submit" value="Execute">
    </form>

    <?php if (!empty($resultData)): ?>
        <h2>Results</h2>
        <table border="1">
            <tr>
                <th>Name</th>
                <th>Age</th>
            </tr>
            <?php foreach ($resultData as $row): ?>
                <tr>
                    <td><?php echo htmlspecialchars($row['name']); ?></td>
                    <td><?php echo htmlspecialchars($row['age']); ?></td>
                </tr>
            <?php endforeach; ?>
        </table>
```

```php
        <?php endif; ?>
</body>
</html>
```

Output:

Execute SQL Query

SQL Query:

```
SELECT * FROM STUDENTS WHERE AGE>21;
```

[Execute]

Results

Name	Age
Bob	22
Evan	23
abc	33

8. Program to accept book information viz Accession number, title, authors, edition and publication from a webpage and to store those in a database.

```php
<?php
// Database credentials
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "books";
```

```php
// Create a connection
$conn = new mysqli($servername, $username, $password, $dbname);

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Handle form submission
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // Retrieve book details from the form
    $access_number = $_POST['access_number'];
    $title = $_POST['title'];
    $authors = $_POST['authors'];
    $edition = $_POST['edition'];
    $publication = $_POST['publication'];

    // Prepare and bind
    $stmt = $conn->prepare("INSERT INTO book (access_number, title, authors,
edition, publication) VALUES (?, ?, ?, ?, ?)");
    $stmt->bind_param("issis", $access_number, $title, $authors, $edition,
$publication);  // "issis" indicates the data types (int, string, string,
int, string)

    // Execute the query
    if ($stmt->execute()) {
        echo "<p>New book record created successfully</p>";
    } else {
        echo "<p>Error: " . $stmt->error . "</p>";
    }

    // Close the statement
    $stmt->close();
}

// Close the connection
$conn->close();
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Insert Book</title>
</head>
```

```html
<body>
    <h2>Enter Book Details</h2>
    <form action="" method="post">
        <label for="access_number">Access Number:</label>
        <input type="number" id="access_number" name="access_number"
required>
        <br><br>

        <label for="title">Title:</label>
        <input type="text" id="title" name="title" required>
        <br><br>

        <label for="authors">Authors:</label>
        <input type="text" id="authors" name="authors" required>
        <br><br>

        <label for="edition">Edition:</label>
        <input type="number" id="edition" name="edition" required>
        <br><br>

        <label for="publication">Publication:</label>
        <input type="text" id="publication" name="publication" required>
        <br><br>

        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

Output:

Enter Book Details

Access Number: `3`

Title: `OS`

Authors: `S.Galvin`

Edition: `7`

Publication: `pearson`

[Submit]

9. Program to search a book for a title given by the user on a webpage and display the search results with proper headings.

```php
<?php
// Database credentials
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "books";

// Create a connection
$conn = new mysqli($servername, $username, $password, $dbname);

// Check connection
if ($conn->connect_error) {
```

```php
        die("Connection failed: " . $conn->connect_error);
}

// Initialize variables
$bookDetails = null;

// Handle form submission
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // Retrieve the book title from the form
    $title = $_POST['title'];

    // Prepare and execute the SQL query
    $stmt = $conn->prepare("SELECT * FROM book WHERE title = ?");
    $stmt->bind_param("s", $title);
    $stmt->execute();
    $result = $stmt->get_result();

    // Check if any results were returned
    if ($result->num_rows > 0) {
        // Fetch the book details
        $bookDetails = $result->fetch_assoc();
    } else {
        $bookDetails = false; // Book not found
    }

    // Close the statement
    $stmt->close();
}

// Close the connection
$conn->close();
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Search Book</title>
</head>
<body>
    <h2>Search for a Book</h2>
    <form action="" method="post">
        <label for="title">Book Title:</label>
        <input type="text" id="title" name="title" required>
        <br><br>
```

```php
        <input type="submit" value="Search">
    </form>

    <?php if ($bookDetails !== null): ?>
        <?php if ($bookDetails): ?>
            <h3>Book Details:</h3>
            <p><strong>Access Number:</strong> <?php echo
htmlspecialchars($bookDetails['access_number']); ?></p>
            <p><strong>Title:</strong> <?php echo
htmlspecialchars($bookDetails['title']); ?></p>
            <p><strong>Authors:</strong> <?php echo
htmlspecialchars($bookDetails['authors']); ?></p>
            <p><strong>Edition:</strong> <?php echo
htmlspecialchars($bookDetails['edition']); ?></p>
            <p><strong>Publication:</strong> <?php echo
htmlspecialchars($bookDetails['publication']); ?></p>
        <?php else: ?>
            <p>The book does not exist in the database.</p>
        <?php endif; ?>
    <?php endif; ?>
</body>
</html>
```

Output:

Search for a Book

Book Title: CN

Search

Book Details:

Access Number: 1

Title: CN

Authors: Tanenbaum

Edition: 4

Publication: Pearson