



**ATSS's Institute of Industrial and Computer Management and Research,
Nigdi Pune**

MCA Department

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**Practical Journal on
Advanced Internet Technology
(SEM- II): IT 21 L**

Submitted By:

Roll no – 29

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Date :

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Course Outcomes:

Student will be able to

CO1: Implement python programming concepts for solving real life problems. (Apply)

CO2: Implement Advanced Internet Technologies (Apply)

ATSS's
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Students Name:

Roll No.

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2.	Write a program to embed audio and video elements use controls.	CO2			
3.	WAP to draw a circle considering mouse click position as a centre.(Radius can be considered as 50)	CO2			
4.	Write a program to draw the rectangle shape using SVG and apply animation to it.	CO2			
5.	Apply pseudo selectors as per instructions to set the background color for visited and unvisited links to 'lightblue', and the background color for the hover and active link states to 'green'.	CO2			
6.	Consider the heart shape as an image and apply Animation on hover effect where image will increase the size and revert back to original size with shadow effect.	CO2			
7.	Apply transition and transformation to perform following task: a. On hover of an image, it should rotate in 360 degrees. b. On hover of a div, text should increase the size and removing cursor from div, size of the text should be restored.	CO2			

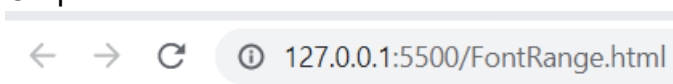
8.	Write a PHP script to generate simple random password of 7 characters from a given string. Assume a string contains characters from A-Z, a-z, 0- 9. Generated password must contain at least 1 number, 1 capital letter and 1 small letter.	CO2			
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Q.1 WAP to change font size of a text as per the “range” control value, ranging from 8 to 50.

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>FontRange</title>
</head>
<body>
  <p id="demo">Hello Good Morning</p>
  <input type="range" min="8" max="50" id="range" onchange="fun()">
  <script>
    function fun(){
      var demo = document.getElementById("demo");
      var range = document.getElementById("range").value;
      demo.style.fontSize = range+"px";
    }
  </script>
</body>
</html>
```

Output:



Hello Good Morning

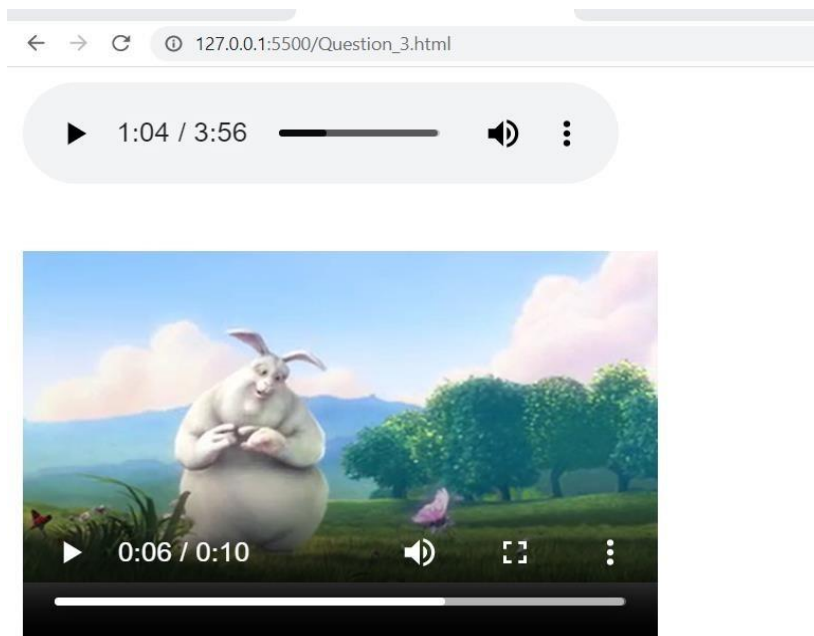


Q.2 Write a program to embed audio and video elements use controls.

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">  <meta name="viewport"
content="width=device-width, initial-scale=1.0">
  <title>Question-2</title>
</head>
<body>
  <audio controls loop muted autoplay >
    <source src="kabirsingh.mp3" type="audio/mp3">
  </audio> <br>
  <video width="320" height="240" controls>
    <source src="mov_bbb.mp4" type="video/mp4">
  </video>
</body>
</html>
```

Output:



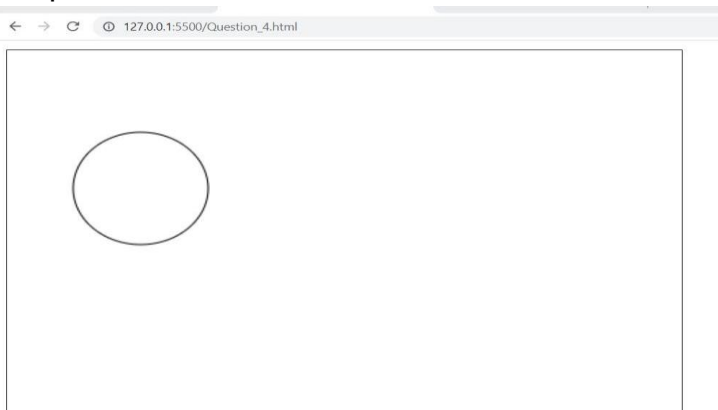
Q.3 WAP to draw a circle considering mouse click position as a centre.(Radius can be considered as 50).

Code:

```
<!DOCTYPEhtml>
<html>
<head>
<style>#myCanvas{ border: 1pxsolidblack;
}
</style>
<title>Question-3</title>
</head>
<body>
<canvasid="myCanvas"width="500"height="500"></canv as>

<script>var canvas =
document.getElementById("myCanvas");
var ctx = canvas.getContext("2d");
canvas.addEventListener("click", function(event) {
    var rect = canvas.getBoundingClientRect();
    var mouseX = event.clientX - rect.left;
    var mouseY = event.clientY - rect.top;
    ctx.clearRect(0, 0, canvas.width, canvas.height);
    ctx.beginPath();
    ctx.arc(mouseX, mouseY, 50, 0, 2 * Math.PI);    ctx.stroke();
});
</script>
</body>
</html>
```

Output:



Q.4 Write a program to draw the rectangle shape using SVG and apply animation to it.

Code:

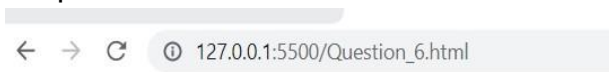
```
<!DOCTYPEhtml>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Question-6</title>
</head>
<body>
  <svg width="500" height="500">
    <rect id="myRect" x="50" y="50" width="200" height="100" fill="blue">

    <animate attributeName="width" from="200" to="400" dur="2s" repeatCount="indefinite"/>

    <animate attributeName="height" from="100" to="200" dur="2s" repeatCount="indefinite"/>
      <animate attributeName="fill" values="blue; red; green;
yellow" dur="4s" repeatCount="indefinite"/>
    </rect>
  </svg>

</body>
</html>
```

Output:

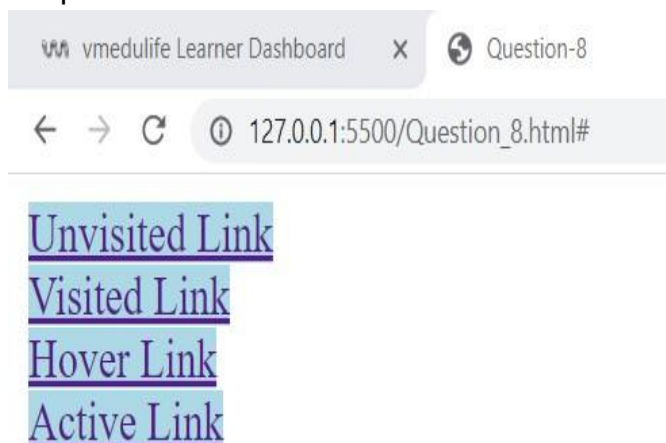


Q.5 Apply pseudo selectors as per instructions to set the background color for visited and unvisited links to 'lightblue', and the background color for the hover and active link states to 'green'.

Code:

```
<!DOCTYPEhtml>
<html>
<head>
  <title>Question-8</title>
  <style>
    a:link {    background-color: lightblue;
  }
    a:visited {    background-color: lightblue;
  }
    a:hover {    background-color: green;
  }
    a:active {    background-color: green;
  }
  </style>
</head>
<body>
  <a href="#">Unvisited Link</a><br>
  <a href="#">Visited Link</a><br>
  <a href="#">Hover Link</a><br>
  <a href="#">Active Link</a>
</body>
</html>
```

Output:



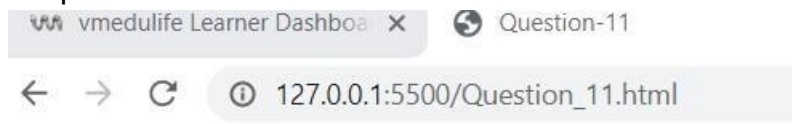
Q.6 Consider the heart shape as an image and apply Animation on hover effect where image will increase the size and revert back to original size with shadow effect.

Code:

```
<!DOCTYPEhtml>
<html>
<head>
  <title>Question-11</title>
  <style>  .heart {    width: 100px;    height:60px;    background-
image: url("./heart2.jpg");    background-size:contain;    transition:
transform 0.3s, box-shadow 0.3s;
  }

  .heart:hover {    transform: scale(1.2);    box-shadow:
0010pxrgba(0, 0, 0, 0.3);
  }
</style>
</head>
<body>
  <divclass="heart"></div>
</body>
</html>
```

Output:



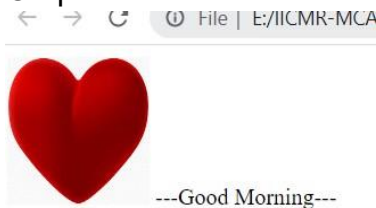
Q.7 Apply transition and transformation to perform following task:

- i. On hover of an image, it should rotate in 360 degrees.
- ii. On hover of a div, text should increase the size and removing cursor from div, size of the text should be restored.

Code:

```
<!DOCTYPEhtml>
<html>
<head>
  <style>
    .rotate-image {    width: 100px;
height: 100px;
    transition: transform 0.3s;
    }
    .rotate-image:hover {
      transform: rotate(360deg);
    }
    .enlarge-text {    display: inline-block;
transition: font-size 0.3s;    cursor: pointer;
    }
    .enlarge-text:hover {    font-size: 1.2em;
cursor: default;
    }
  </style>
  <title>Question-12</title>
</head>
<body>
  <imgclass="rotate-image"src="./heart.jpg"alt="Image">
  <divclass="enlarge-text">
    <p>---Good Morning---</p>
  </div>
</body>
</html>
```

Output:



Q.8 Write a PHP script to generate simple random password of 7 characters from a given string. Assume a string contains characters from A-Z, a-z, 0- 9. Generated password must contain at least 1 number, 1 capital letter and 1 small letter.

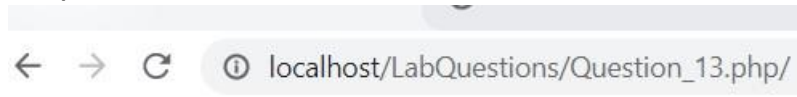
Code:

```
<?php
function generateRandomPassword($length) {
    $characters =
'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456
789';
    $password = "";

    $charLength = strlen($characters);    for ($i = 0; $i < $length;
$i++) {
        $randomIndex = mt_rand(0, $charLength - 1);
        $password .= $characters[$randomIndex];
    }    return $password;
}

$randomPassword = generateRandomPassword(10);
echo "Random Password: " . $randomPassword;
?>
```

Output:



Random Password: uRjxsSpXtQ

Q.9 Write a PHP program to print Fibonacci Series using both ways: loops, recursive function.

Code:

```
<?php function fibonacciLoop($nl) {
    $fib = [];
    $fib[0] = 0;
    $fib[1] = 1;
    for ($i = 2; $i < $nl; $i++) {
        $fib[$i] = $fib[$i - 1] + $fib[$i - 2];
    }
    return $fib;
}

$nl = 10; // Number of Fibonacci numbers to generate

$fibonacciSeries = fibonacciLoop($nl);
echo "Fibonacci Series using Loops: "; foreach
($fibonacciSeries as $number) { echo $number . " ";
} echo "<br>"; echo "Fibonacci Series Using Recursion:";
function fibonacciRecursive($a,$b,$nr)
{
    if($nr==0)
    {
        return; } $c=$a+$b;
echo $c." "; $nr=$nr-1;
fibonacciRecursive($b,$c,$nr);
}
$nr = 10; //Number of Fibonacci numbers to generate $a=0; $b=1; echo $a." ".$b." ";
$nr=$nr-2; fibonacciRecursive($a,$b,$nr);

?>
```

Output:

← → ↻ ⓘ localhost/LabQuestions/Question_14.php/

Fibonacci Series using Loops: 0 1 1 2 3 5 8 13 21 34
 Fibonacci Series Using Recursion:0 1 1 2 3 5 8 13 21 34

Q.10 Create a table Emp with fields: empno, name, address, salary, deptno. Design HTML & PHP pages for following:

- a. Insert a record**
- b. Delete record**
- c. View record**
- d. Display department number wise group report.**

Code:

Display.php

```
<?php
$servername='localhost';
$username='root'; $password="";
$dbname = 'nitin';
$conn = mysqli_connect($servername,$username,$password,$dbname); if(!$conn) {
die('Could not connect mysql'.mysql_error());
} if(isset($_POST['display']))
{
    $sql = "select * from emp";    $result
=mysqli_query($conn,$sql);
if(mysqli_num_rows($result)>0){
    ?>
    <table border=2>
        <tr>
            <th>EmpNo</th>
            <th>Name</th>
            <th>Address</th>
            <th>Salary</th>
            <th>DeptNo</th>
        </tr>
        <?php    while($row=mysqli_fetch_assoc($result)){
echo
"<tr><td>".$row["empno"]."</td><td>".$row["name"]."</td><td>
".$row["address"]."</td><td>".$row["salary"]."</td><td>".$row["deptno"]."</td></tr>";
        }    } else {    echo "No Record
Found";
    }
    //mysqli_close($conn);
} if(isset($_POST['insert']))
{
    $empno=$_POST["id"];
    $empname=$_POST["name"];    $addr=$_POST["address"];
    $sal=$_POST["salary"];
```

```
$deptno=$_POST["deptno"];

$sql1="insert into emp values($empno,$empname,$addr,$sal,$deptno)";
if(mysqli_query($conn,$sql1))
{
    $sql = "select * from emp";    $result
=mysqli_query($conn,$sql);    if(mysqli_num_rows($result)>0){
    ?>
    <table border=2>
        <tr>
            <th>EmpNo</th>
            <th>Name</th>
            <th>Address</th>
            <th>Salary</th>
            <th>DeptNo</th>
        </tr>
        <?php    while($row=mysqli_fetch_assoc($result)){
echo
"<tr><td>".$row["empno"]."</td><td>".$row["name"]."</td><td>
".$row["address"]."</td><td>".$row["salary"]."</td><td>".$row["deptno"]."</td></tr>";
    }    }    else {        echo "No Record
Found";
    }    }    else {        echo "Error:".mysqli_error($conn);    }

}
//mysqli_close($conn); if(isset($_POST['Del']))
{
    $no=$_POST['no'];
    $sql2="delete from emp where empno=$no";
if(mysqli_query($conn,$sql2))
{
    $sql = "select * from emp";    $result
=mysqli_query($conn,$sql);    if(mysqli_num_rows($result)>0){
    ?>
    <table border=2>
        <tr>
            <th>EmpNo</th>
            <th>Name</th>
            <th>Address</th>
            <th>Salary</th>
            <th>DeptNo</th>
```

```
</tr>
    <?php    while($row=mysqli_fetch_assoc($result)){
echo
"<tr><td>".$row["empno"]."</td><td>".$row["name"]."</td><td>
".$row["address"]."</td><td>".$row["salary"]."</td><td>".$row["deptno"]."</td></tr>";
    } } else {    echo "No Record
Found";
    } } else {    echo"Error:".mysqli_error($conn); }
}
//mysqli_close($conn); if(isset($_POST['display']))
{
    $sql = "select * from emp";    $result
=mysqli_query($conn,$sql);
if(mysqli_num_rows($result)>0){
    ?>
    <table border=2>
        <tr>
            <th>EmpNo</th>
            <th>Name</th>
            <th>Address</th>
            <th>Salary</th>
            <th>DeptNo</th>
        </tr>
        <?php    while($row=mysqli_fetch_assoc($result)){
echo
"<tr><td>".$row["empno"]."</td><td>".$row["name"]."</td><td>
".$row["address"]."</td><td>".$row["salary"]."</td><td>".$row["deptno"]."</td></tr>";
        } } else {    echo "No Record
Found";
        }
        //mysqli_close($conn);
    }
    ?>
Index.html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>PHP Crud Operation</title>
```



```

<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"> <link
rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrapicons@1.10.2/font/bootstrap-icons.css"
</head>
<body>
  <div class="m-5">
    <button class="btn btn-primary">New
Record</button>
    <div class="d-flex justify-content-center">
      <div>
        <h1>Student Information</h1>
        <table>
          <thead>
            <tr>
              <th>Name</th>
              <th>Mobile</th>
              <th>Email</th>
              <th>Password</th>
              <th>Operation</th>
            </tr>
          </thead>
          <tbody>
            <tr>
              <td></td>
            </tr>
          </tbody>
        </table>
      </div>
    </div>

    </div>

    <form method="post" action="Display.php">
      Enter id <input type="number"
name="id"><br>
      enter name<input type="text" name="name"><br>
      enter
address<input type="text" name="address"><br>
      enter salary<input type="number"
name="salary"><br>
      enter deptNo<input type="number" name="deptno"><br>
      <button name="display" value="display">Display</button>
      <input type="submit" value="Insert" name="insert">
      <button name="Delete" value="Delete"><a href="/delete.html">Delete</a></button>
      <input type="submit" name="View Dept Wise" value="display2">
    </form>
  </body>
</html>

```

Delete.html

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Delete</title>
</head>
<body>
  <h2>Insert the Employee N0/h2>
  <form action="Display.php" method="post">
    <input type="number" name="no">
    <button name="Del">Delete</button>
  </form>
</body>
</html>

```

Output:

Employee Registration Form

Enter id :

enter name :

enter address :

enter salary :

enter deptNo :

Display

Insert

Delete

← → ↻ ⓘ localhost/CRUD/Display.php

EmpNo	Name	Address	Salary	DeptNo
1	John Doe	San Francisco	75000	10
2	David Hank	New York	89000	20
3	Harry	Paris	150000	30

Q.11 Create book shopping cart application in PHP. Display all books details on page using Book table.

Code:

HTML:

```
<html>
<form method="post" action="main2.php">
<label>Welcome to E-Book store</label><br><br>
<input type="submit" name="show" value="Show Books">
</form>
</html>
```

PHP:

```
<?php
$servername="localhost";
$username="root";
$password="";
$dbname="Books";

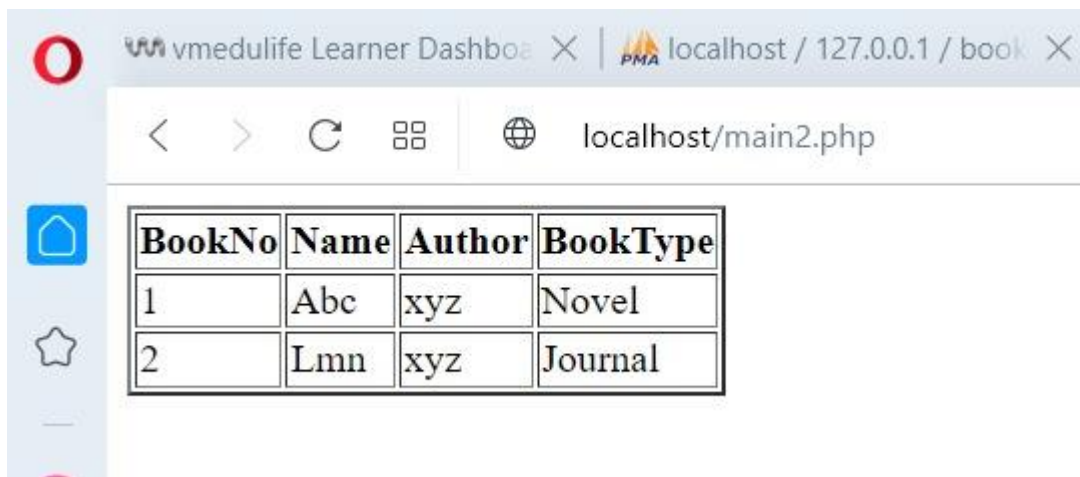
$conn=mysqli_connect("$servername","$username","$password",$dbname);
if(!$conn)
{
    die("Error:".mysqli_error($conn));
}
if(isset($_POST['show']))
{
    $sql = "select * from bk";
    $result =mysqli_query($conn,$sql);
    if(mysqli_num_rows($result)>0){
        ?>
        <table border=2>
        <tr>
            <th>BookNo</th>
            <th>Name</th>
            <th>Author</th>
            <th>BookType</th>

        </tr>

        <?php
        while($row=mysqli_fetch_array($result)){
            echo
            "<tr><td>".$row["BookNo"]."</td><td>".$row["Name"]."</td><td>".$row["Author"]."</td><td>".
            $row["Type"]."</td></tr>";
```

```
    }  
  }  
  else {  
    echo "No Record Found";  
  }  
}  
else  
{  
    echo "Error:".mysqli_error($conn);  
}  
mysqli_close($conn);  
?>
```

Output:



The screenshot shows a web browser window with the address bar displaying 'localhost/main2.php'. The page content is a table with four columns: BookNo, Name, Author, and BookType. The table contains two rows of data: (1, Abc, xyz, Novel) and (2, Lmn, xyz, Journal). The browser's sidebar on the left shows a home icon, a star icon, and a search icon.

BookNo	Name	Author	BookType
1	Abc	xyz	Novel
2	Lmn	xyz	Journal

Q.12 Program to show current date and time using user defined module.

Code:

```
const currentDate = new Date();  
console.log("Current date and time:", currentDate);
```

Output:

```
Microsoft Windows [Version 10.0.22621.1848]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Users\nitin\OneDrive\Desktop\NodeJS programm>node dateTime  
Current date and time: 2023-06-24T13:40:12.600Z  
  
C:\Users\nitin\OneDrive\Desktop\NodeJS programm>
```

Q.13 Program using built-in modules to split the query string into readable parts.

Code:

```
const url = require('url');

// Sample query string
const queryString = 'https://portal.vmedulife.com//student/Assignments/AssignmentList.php';

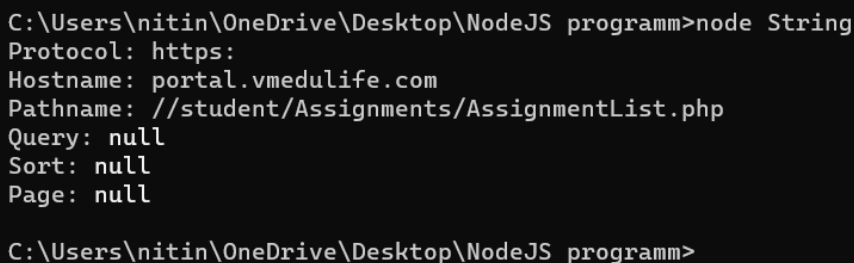
// Parsing the query string using the url module
const parsedUrl = new URL(queryString);

// Extracting readable parts from the parsed URL
const protocol = parsedUrl.protocol;
const hostname = parsedUrl.hostname;
const pathname = parsedUrl.pathname;
const searchParams = parsedUrl.searchParams;

// Getting specific query parameters
const query = searchParams.get('query');
const sort = searchParams.get('sort');
const page = searchParams.get('page');

// Outputting the results
console.log('Protocol:', protocol);
console.log('Hostname:', hostname);
console.log('Pathname:', pathname);
console.log('Query:', query);
console.log('Sort:', sort);
console.log('Page:', page);
```

Output:



```
C:\Users\nitin\OneDrive\Desktop\NodeJS programm>node String
Protocol: https:
Hostname: portal.vmedulife.com
Pathname: //student/Assignments/AssignmentList.php
Query: null
Sort: null
Page: null

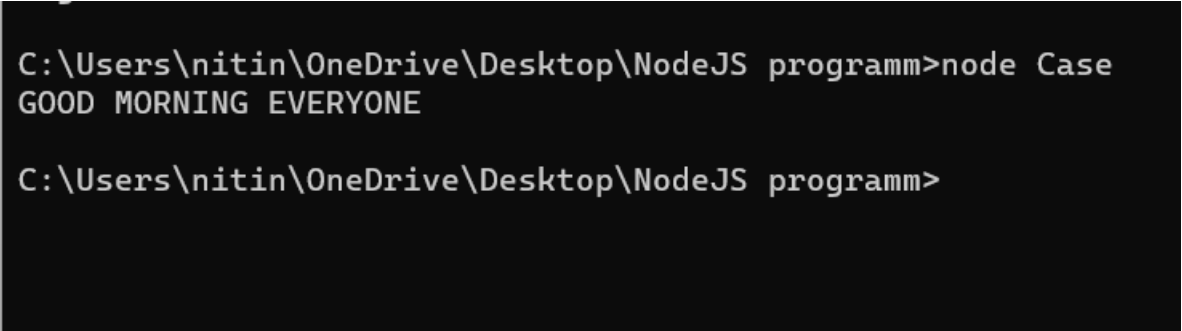
C:\Users\nitin\OneDrive\Desktop\NodeJS programm>
```

Q.14 Program using NPM which will convert entered string into either case.

Code:

```
var uc = require('upper-case');  
console.log(uc.upperCase("Good Morning Everyone"));
```

Output:



```
C:\Users\nitin\OneDrive\Desktop\NodeJS programm>node Case  
GOOD MORNING EVERYONE  
  
C:\Users\nitin\OneDrive\Desktop\NodeJS programm>
```

Q.15 Create angular project which will demonstrate the usage of component directive, structural directive and attribute directives.

Code:

Show.Component.html

```
<h1>Inside the Component Directive</h1>
<h2 appColor>Structural Directive</h2>
<ul *ngFor="let value of Names">
  <li>{{value}}</li>
</ul>

<div *ngIf = 'myBool'>Boolean is set to true</div>

<div [ngSwitch]="num">
  <div *ngSwitchCase="1">One</div>
  <div *ngSwitchCase="2">Two</div>
  <div *ngSwitchCase="3">Three</div>
  <div *ngSwitchCase="4">Four</div>
  <div *ngSwitchCase="5">Five</div>
</div>
```

Show.component.ts

```
import { Component } from '@angular/core';

@Component({
  selector: 'app-show',
  templateUrl: './show.component.html',
  styleUrls: ['./show.component.css']
})
export class ShowComponent {
  Names = ["John", "Harry", "David", "Peter"];
  myBool = true;
  num = 4;
}
```

Color.directive.ts


```
import { Directive, ElementRef, HostListener } from '@angular/core';

@Directive({
  selector: '[appColor]'
})
export class ColorDirective {

  constructor(public eobj : ElementRef)
  {
  }
  @HostListener('mouseenter')onmouseenter()
  {
    this.eobj.nativeElement.style.background = 'blue'
  }
  @HostListener('mouseleave')onmouseleave()
  {
    this.eobj.nativeElement.style.background = 'red'
  }
}
```

Output:

Inside the Component Directive

Structural Directive

- John
- Harry
- David
- Peter

Boolean is set to true
Four

Q.16 Create angular project which has HTML template and handle the click event on click of the button.

Code:

App.component.html

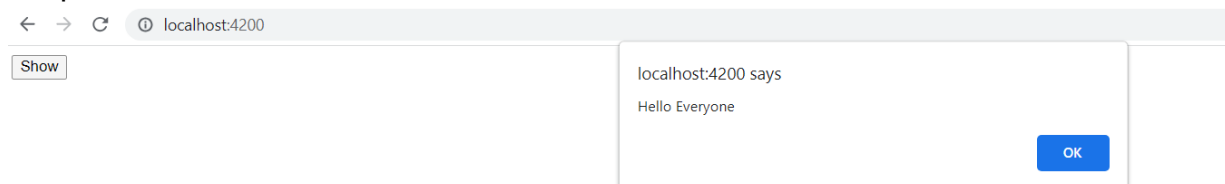
```
<button (click)="Message()">Show</button>
```

App.component.ts

```
import { Component } from '@angular/core';
```

```
@Component({  
  selector: 'app-root',  
  templateUrl: './app.component.html',  
  styleUrls: ['./app.component.css']  
})  
export class AppComponent {  
  title = 'Assignment';  
  Message()  
  {  
    alert("Hello Everyone");  
  }  
}
```

Output:



Q.17 Write Program for Form validation in Angular.

Code:

App.component.html

```
<div class = "container-fluid">
  <h2>Marvellous Login Form</h2>
  <!--Add FormGroup with our model-->
  <form [formGroup] = "MarvellousForm">
    <div class="form-group">
      <label>User Name </label>
      <!--Use class binding for validation-->
      <input [class.is-invalid] = "MarvellousForm.get('username')?.invalid" type="text"
class="form-control" formControlName="username">
      <small [class.d-none]="MarvellousForm.get('username')?.valid" class="text-
danger">Username is required</small>
    </div>

    <div class="form-group">
      <label>Password </label>
      <input [class.is-invalid] = "MarvellousForm.get('passowrd')?.invalid &&
MarvellousForm.get('passowrd')?.touched" type="password" class="form-control"
formControlName="passowrd">
      <small [class.d-none]="MarvellousForm.get('passowrd')?.valid ||
MarvellousForm.get('passowrd')?.untouched" class="text-danger">Password is
required</small>
    </div>

    <div class="form-group">
      <label>Confirm Password </label>
      <input type="password" class="form-control" formControlName="ConfirmPass">
    </div>

    <!--Add nested Form group-->
    <div formGroupName = "MarvellousClass">
      <div class = "form-group">
        <label>Batch Name</label>
        <input type="text" class = "form-control" formControlName="batch">
      </div>

      <div class = "form-group">
        <label>Fees</label>
        <input type="text" class = "form-control" formControlName="fees">
      </div>
    </div>
  </form>
</div>
```

```
</div>
</div>
```

```
<button type="submit" class="btn btn-primary">Login</button>
<button type="button" class="btn btn-primary ml-3" (click)="SetData()">Set Values</button>
</form>
```

```
{{MarvellousForm.value | json}}
</div>
```

App.component.ts

```
import { Component } from '@angular/core';
```

```
// import classes which are required for reactive forms
```

```
import { FormBuilder, FormGroup, Validators, FormControl, MinLengthValidator } from
'@angular/forms'
```

```
@Component({
  selector: 'app-root',
  templateUrl: './app.component.html',
  styleUrls: ['./app.component.css']
})
```

```
export class AppComponent
{
  // Inject FormBuilder service
  constructor(public fbobj : FormBuilder)
  {
  }
}
```

```
MarvellousForm = this.fbobj.group(
{
  // Add Multiple validations
  username : [' ', [Validators.required, Validators.minLength(5)] ],
  passowrd : [' ', Validators.required],
  ConfirmPass : [' '],
  MarvellousClass : this.fbobj.group(
    {
      batch : ['Python'],
      fees : ['5000']
    }
  )
}
);
```

```
// Method to set FormControl fields through program
SetData()
{
    this.MarvellousForm.setValue(
        {
            username : 'Piyush',
            passowrd : 'abcd',
            ConfirmPass : 'abcd',
            MarvellousClass :
            {
                batch : 'Python',
                fees : '5000'
            }
        }
    )
}
```

Output:

Marvellous Login Form

User Name

Username is required

Password

Password is required

Confirm Password

Batch Name

Fees

Login

Set Values

{ "username": "", "passowrd": "", "ConfirmPass": "", "MarvellousClass": { "batch": "Python", "fees": "5000" } }