WEEK 01

1. In your own words, explain Web Engineering.

Web Engineering: Web Engineering is a specialized branch of software engineering that focuses on the systematic development of web-based applications and websites. It involves applying engineering principles, tools, and best practices to ensure that web applications are efficient, secure, scalable, maintainable, and user-friendly.
Unlike traditional software development, Web Engineering deals with challenges such as:

- Rapidly changing requirements
- Diverse user devices
- Browser compatibility
- Security threats
- Performance under heavy traffic

Web Engineering covers the complete web development life cycle, including:

- Requirement analysis
- Design and architecture
- Implementation
- Testing
- Deployment
- Maintenance

2. Explore and list core technologies used in Web Engineering, including HTML, CSS, JavaScript, and PHP, and explain the role of each.

Core Technologies Used in Web Engineering:
1. HTML (Hyper Text Markup Language): HTML defines the structure and content of a website. HTML does not control design or behavior; it only structures content.
Roles:

- Creates web page elements like headings, paragraphs, lists, images, links, and forms
- Organizes content using semantic tags like <header>, <nav>, <section>, and <footer>
- Provides accessibility and SEO support

2. CSS (Cascading Style Sheets): CSS is used to style and format web pages. Without CSS, websites would appear plain and unorganized.
Roles:

- Controls layout, colors, fonts, spacing, and positioning
- Enables responsive design using media queries

- Improves user experience through animations and transitions

3. JavaScript: JavaScript is a client-side scripting language that adds interactivity to web pages. JavaScript makes websites interactive and responsive.
Roles:

- Enables dynamic content updates without reloading the page
- Supports animations, pop-ups, and interactive UI elements
- Communicates with servers using AJAX and APIs

4. PHP (Hypertext Preprocessor): PHP is a server-side scripting language used to build dynamic web applications. PHP is widely used in platforms like WordPress, Joomla, Drupal.
Roles:

- Processes user input from forms
- Interacts with databases to store and retrieve data
- Manages sessions and user authentication

3. Identify front-end and back-end technologies used in web development and give examples of each.

1. Front-End Technologies: Front-end development focuses on the visual and interactive parts of a website that users directly experience.
Roles:

- Designing user interfaces
- Ensuring responsiveness and usability
- Handling client-side validation and interaction

Examples:

- HTML (page structure)
- CSS (styling and layout)
- JavaScript (interactivity)
- Frameworks: React, Angular, Vue.js

2. Back-End Technologies: Back-end development handles the server-side operations of a web application.
Roles:

- Processing user requests
- Managing databases
- Handling authentication and security

- Implementing business logic

Examples:

- Programming languages: PHP, Python, Java, Node.js
- Frameworks: Laravel, Django, Spring Boot
- Databases: MySQL, MongoDB, PostgreSQL
- Web servers: Apache, Nginx

4. Explore popular web frameworks or platforms and write short notes on any two.

1. React.js: React is a JavaScript library used for building modern user interfaces.
Features:

- Component-based architecture
- Virtual DOM for high performance
- Reusable UI components
- Strong community support

Uses:

- Single-page applications
- Dashboards
- Social media platforms

2. Django: Django is a Python-based web framework designed for rapid and secure development.
Features:

- Built-in admin panel
- Strong security features
- Follows Model-View-Template (MVT) architecture
- Excellent database integration

Uses:

- Data-driven applications
- Content management systems
- Secure enterprise applications

5. Write a short note on the usage of web technologies in education, business or social platforms.

1. Web Technologies in Education: Web technologies enable digital learning models and environments.
Applications:

- Online courses and virtual classrooms
- Learning management systems (LMS)
- Online exams and assessments

Examples: Moodle, Google Classroom, Coursera
2. Web Technologies in Business: Businesses use web technologies for operations, marketing, and customer engagement.
Applications:

- E-commerce platforms
- Online payment systems
- Customer relationship management

Examples: Amazon, Flipkart, PayPal
3. Web Technologies in Social Platforms: Social platforms rely heavily on web technologies to enable communication and content sharing.
Applications:

- Social networking
- Media sharing
- Real-time messaging

Examples: Facebook, Instagram, LinkedIn

WEEK 02

1. In your own words, explain what Data Science is and why it is important in today's world.

1. Data Science: Data Science is a multidisciplinary field that focuses on extracting meaningful knowledge and insights from structured and unstructured data. It combines techniques from statistics, mathematics, computer science, machine learning, and domain expertise to analyze large volumes of data and convert them into useful information.
The Data Science process generally includes:

- Data collection from various sources
- Data cleaning and preprocessing
- Model building using statistical or machine learning methods
- Interpretation and communication of results
- Deployment and monitoring of models

Importance of Data Science in Today's World:

Data Science has become crucial due to the massive growth of digital data generated every second from smartphones, social media, sensors, online transactions, and IoT devices.
Its importance includes:

- Organizations use data-driven insights instead of intuition.
- It helps anticipate future trends such as market demand and disease outbreaks.
- It enables intelligent systems like chatbots and self-driving cars.
- Improves user experience in platforms like Netflix, Amazon, and Spotify.
- Drives advancements in healthcare, finance, education, and scientific research.

2. Identify and describe any five real-world datasets.

1. Census Dataset: Census data contains population-related information such as age, gender, income, education, occupation, and household details. Governments use this dataset for:

- Policy formulation
- Resource allocation
- Urban development

2. Healthcare Dataset: This dataset includes patient demographics, medical history, diagnoses, medications, lab results, and treatment outcomes. Applications include:

- Disease prediction
- Medical research
- Public health monitoring

3. Financial and Banking Dataset: Includes transaction records, credit history, loan details, and account information. It is used for:

- Fraud detection
- Credit scoring
- Risk assessment

4. Weather and Climate Dataset: Contains information such as temperature, rainfall, wind speed, humidity, and atmospheric pressure. It is useful for:

- Weather forecasting
- Agricultural planning
- Disaster management

5. Social Media Dataset: Consists of user-generated content like posts, comments, likes, shares, and hashtags. It is used for:

- Brand monitoring
- Trend analysis
- Political and social research

3. List major tools used in Data Science (programming languages, libraries, platforms) and state their purpose.

1. Programming Languages:

A. Python: Simple syntax. Used for data analysis, visualization, and machine learning.
B. R: Strong statistical and analytical capabilities. Excellent for data visualization.
C. SQL: Used to query, retrieve, and manipulate data. Essential for handling structured data.
D. Java: Used in large-scale and enterprise systems. Common in big data tools like Hadoop

2. Libraries:
A. NumPy: Supports numerical, mathematical functions. Provides multidimensional arrays.
B. Pandas: Used for data manipulation and cleaning**.** Handles filtering, and aggregation.
C. Matplotlib: Data visualization library. Used to create charts, graphs, and statistical plots.
D. Scikit-learn: Machine learning. Algorithms for classification, regression, and clustering.

3. Platforms:
A. Jupyter Notebook: Interactive environment for analysis and documentation
B. Power BI: Data visualization and business intelligence
C. Apache Spark: Big data processing
D. Google Colab: Cloud-based coding and collaboration

4. Explore and write short notes on any three Data Science frameworks.
1. TensorFlow: TensorFlow is an open-source machine learning framework developed by Google. It supports both traditional machine learning and deep learning models.
Features:

- Scalable and flexible
- Supports CPU, GPU, and TPU
- Used in image recognition, speech recognition, and NLP

2. Apache Spark: Apache Spark is a distributed computing framework designed for large-scale data processing.
Features:

- In-memory computation (faster than Hadoop)
- Supports SQL, streaming, machine learning, and graph processing
- Handles massive datasets efficiently

3. Scikit-learn: Scikit-learn is a Python-based machine learning framework that provides simple and efficient tools for data analysis.
Features: -Easy to use and beginner-friendly , -Supports supervised and unsupervised learning .
-Integrates well with NumPy and Pandas

5. Identify different roles in Data Science (e.g., Data Analyst, Data Scientist, ML Engineer) and their responsibilities.

Roles in Data Science and Their Responsibilities:
1. Data Analyst:

- Collects and cleans data
- Performs exploratory data analysis
- Helps organizations understand historical data

2. Data Scientist:

- Applies advanced statistical methods
- Builds predictive and machine learning models
- Solves complex business problems

3. Machine Learning Engineer:

- Deploys ML models into production
- Optimizes model performance
- Works closely with software teams

4. Data Engineer:

- Designs data pipelines
- Maintains databases and data warehouses
- Ensures data availability and quality

6. Write a short note on the usage of Data Science being in your own domain of interest.

Data Science in Education Sector: In the education sector, Data Science is used to improve learning outcomes and administrative efficiency. By analysing student data, institutions can provide targeted support, improve teaching methods, and enhance overall educational quality.
Applications include:

- Predicting student performance and dropout rates
- Personalized learning recommendations
- Curriculum improvement based on learning analytics
- Online examination analysis
- Enhancing digital learning platforms

WEEK 03

1.Write a Python program to read a number and check whether it is even or odd.

```python
Num= int(input("Enter a number : "))
if Num%2==0 :
    print("It is an even number")
else:
    print("It is an Odd number")
```

OUTPUT:

```
ngg)/week 3/w3q1.py"
Enter a number : 12
It is an even number
```

2.Write a Python program to find the largest of three numbers using conditional statements.

```python
num1 = int(input("Enter 1 number: "))
num2 = int(input("Enter 2 number: "))
num3 = int(input("Enter 3 number: "))
if num1 > num2 and num1 > num3:
    print("1st is greatest")
elif num2 > num1 and num2 > num3:
    print("2nd is greatest")
elif num3 > num1 and num3 > num2:
    print("3rd is greatest")
elif num1 == num2 and num1 > num3:
    print("1st and 2nd are greatest")
elif num2 == num3 and num2 > num1:
    print("2nd and 3rd are greatest")
elif num1 == num3 and num1 > num2:
    print("1st and 3rd are greatest")
else:
    print("All are equal")
```

```
Enter 1 number: 12
Enter 2 number: 23
Enter 3 number: 43
3rd is greatest
```

3.Write a Python program to generate the first n Fibonacci numbers using a loop.

```python
n = int (input ("Enter a number :"))
a= 0
b=1
if n==1:
    print(a,b)
elif n==0:
    print(a)
elif n<0:
    print("invalid")

else:
    print(a,"\n",b)
    for _ in range (n-2):
        c = a + b
        a , b = b , c
        print(c," ")
```

OUTPUT:

```
Enter a number :4
0
 1
1
2
```

4.Write a Python program to count the number of vowels in a given string.

```python
sentence=input("Enter a string: ")

count=sum(1 for ch in sentence.lower() if ch in "aeiou")

print(count)
```

OUTPUT:

```
Enter a string: Hello World! i am a coder
8
```

5. Create a HTML page with the following:

- Webpage Title "My first web page".
- Add BGCOLOR, TEXT attributes to the body.
- Show the use of different heading tags.
- Add two paragraphs to your webpage.
- Show these texts with following formatting along with line break:
    - Italics – "This text is italics"
    - Bold – "This text is bold"
    - Underline – "This text is underline".

```html
<html lang="en">
  <title>
   My first webpage
  </title>
<body bgcolor="lightyellow" text="red">

   <h1>This is my first webpage</h1>

      A Computer Science portal for geeks<br>
      <h2>Heading 2</h2>
      <p>i am currently coding in my lab <br></p>
      <p>
        <i>This is written in italics</i><br>
        <b>This is written in bold</b><br>
        <u>Thi is underlined</u><br>
      </p>
</body>
</html>
```

OUTPUT:

This is my first webpage

A Computer Science portal for geeks

Heading 2

i am currently coding in my lab

This is written in italics
This is written in bold
Thi is underlined

6.Create a web page to show this output:

1. List of fruits:
   - Apple
   - Banana
   - Guava
2. List of Vegetables:
   - Carrot
   - Cabbage
   - Spinach

```html
<html><title>week3</title>
   <head>Question 6</head>
   <body bgcolor="lightpink">
       <p><h3 text="red"><font style="font-family:'Times New roman' ,Times,serif;
color:rgb(25, 25, 205);">Ordered list</font></h3>
           <ol type="1" >
           <li style="color:red"; >apple</font></li>
           <li >banana</li>
           <li>guava</li>
           </ol>
           <font color="green"><h3 text="red">Unordered List</h3></font>
           <ul type="square">
               <li>Tomato</li>
               <li>brinjal</li>
               <li>Lemon</li>
           </ul>
       </p>
   </body>
</html>
```

<u>**OUTPUT:**</u>

Question 6

Ordered list

1. apple
2. banana
3. guava

Unordered List

- Tomato
- brinjal
- Lemon

7.Create the following table in HTML with Dummy Data:

Columns:-Name of the Train -Place -Destination -Train No. -Time (Arrival, Departure) - Fare

```html
<html>
<head>
</head>
 <style>
    .highlight {
      color: black;
      background-color: lightblue;
    }
 </style>
<body>

<table border="1" cellpadding="10" cellspacing="0">
 <tr>
   <th>name of the train</th>
   <th class="highlight">Place</th>
   <th>Destination</th>
   <th>Train No.</th>
   <th colspan="2">Time</th>
   <th>Fair</th>
 </tr>
 <tr>
   <td class="highlight"> </td>
   <td class="highlight"> </td>
   <td class="highlight"> </td>
   <td class="highlight"> </td>
       <td class="highlight"> Arrival </td>
       <td class="highlight"> Departure</td>
   <td class="highlight"></td>
 </tr>
 <tr>
   <td> </td>
   <td class="highlight"> </td>
   <td> </td>
   <td> </td>
   <td> </td>
   <td class="highlight"></td>
   <td></td>
 </tr>
 <tr>
   <td> </td>
   <td class="highlight"> </td>
   <td> </td>
   <td> </td>
   <td> </td>
   <td class="highlight"></td>
   <td></td>
 </tr>
</table>

</body>
</html>
```

OUTPUT:

name of the train	Place	Destination	Train No.	Time		Fair
				Arrival	Departure	

WEEK 04

1.Create a list of numbers and find the sum and average of the list.

```python
numbers=[1,2,3,4,5,6,7]

def my_sum(numbers):
    total = 0
    for items in numbers:
        total+=items
    return total

print("sum: ", my_sum(numbers),"\nAverage :", my_sum(numbers)/len(numbers))
```

OUTPUT:

```
sum:  28
Average : 4.0
```

2.Write a function to check whether a given string is a palindrome.

```python
sentence=input("Enter a Sentence: ")

def palindrome(sentence):
    rev=sentence[::-1]
    if sentence==rev:
        return True
    return False

print(palindrome(sentence))
```

OUTPUT:

```
Enter a Sentence: Olla
False
```

3.Create a dictionary of student names and marks. Display students scoring above 75.

```
students = {
    "Alice": 82,
    "Bob": 68,
    "Charlie": 91,
    "David": 74,
    "Eva": 88
}

print("Students scoring above 75:")
for name, marks in students.items():
    if marks > 75:
        print(name, ":", marks)
    else:
        print(name,":",marks ,"below 75")
```

OUTPUT:
```
Students scoring above 75:
Alice : 82
Bob : 68 below 75
Charlie : 91
David : 74 below 75
Eva : 88
```

4.Write a program to sort a list in ascending and descending order.

```
number =input('Enter numbers separated by space: ')
number_list=list(map(int,number.split()))
print(sorted(number_list))
```

OUTPUT:
```
Enter numbers seprated by spcae: 2 3 4 12 1 23 12 3 1231
[1, 2, 3, 3, 4, 12, 12, 23, 1231]
```

5.Write HTML code to generate the following output (a table pattern showing numbers 1 to 12 arranged with "Image" in the center).

```html
<html>

    <header></header>
<body>
<style>
    table{
        border-collapse: collapse;
        width: 400px;
        text-align: center;

    }

    .center-cell img{

        width:100%;
        object-fit:cover;
        display:block
    }
    .center-cell {
        padding: 0px;

    }
</style>
<table border="1" cellpadding="10" cellspacing="">
    <tr>
        <th>1</th>
        <th>2</th>
        <th>3</th>
        <th>4</th>
    </tr>
    <tr>
        <td>5</td>
        <td rowspan="2" colspan="2" class="center-cell">
<img
src="https://imgs.search.brave.com/Bwvk8wikJjEi4_URxD72Ie01tmXUe4c4tC1pxmKVQA0/rs:fit:
860:0:0:0/g:ce/aHR0cHM6Ly9zdGF0/aWMud2lraWEubmoj/b29raWUubmV0L2lu/Y29uc2lzdGVudGx5/LWF
kbWlyYWJsZS9p/bWFnZXMvMi8yMS9K/aW1teUhvcGtpbnMu/cG5nL3JldmlzaW9u/L2xhdGVzdC9zY2Fs/ZS10
by13aWR0aC1k/b3duLzI2OD9jYj0y/MDI0MDEwOTIzNDcw/Mw" width="20" height="80" alt="bully">
</td>
        <td>6</td>
    </tr>
      <tr>
        <td>9</td>
        <td>10</td>

    </tr>
    <tr>
        <td>13</td>
        <td>14</td>
        <td>15</td>
        <td>16</td>
    </tr>
</table>
</body>
</html>
```

OUTPUT:

1	2	3	4
5			6
9			10
13	14	15	16

6.Write an HTML code to develop a Web page having two frames that divide the Web page into two equal rows and then divide the second row into two equal columns, then fill each frame with a different background color.

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1" />
<title>Two Row Frames with Two Columns in Second Row</title>
<style>
 html, body {
    height: 100%;
    margin: 0;
 }
 body {
    display:flex;
    flex-direction: column;
 }

 .row1 {
    flex: 1;
    background-color: #ff9999;
 }

 .row2 {
    flex: 1;
    display:flex;
 }

 .col {
    flex: 1;
 }
 .col1 {
    background-color: #99ccff;
 }
 .col2 {
    background-color: #99ff99;
 }
</style>
</head>
<body>
 <div class="row1">
 </div>
 <div class="row2">
    <div class="col col1">
    </div>
    <div class="col col2">
    </div>
 </div>
</body>
</html>
```
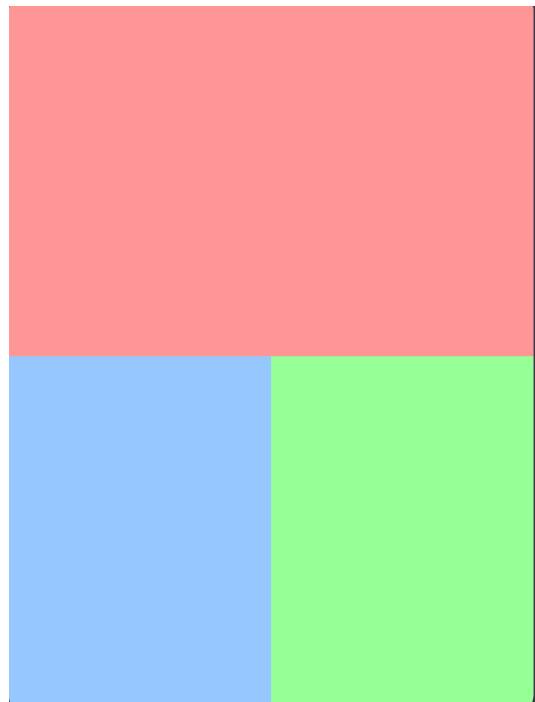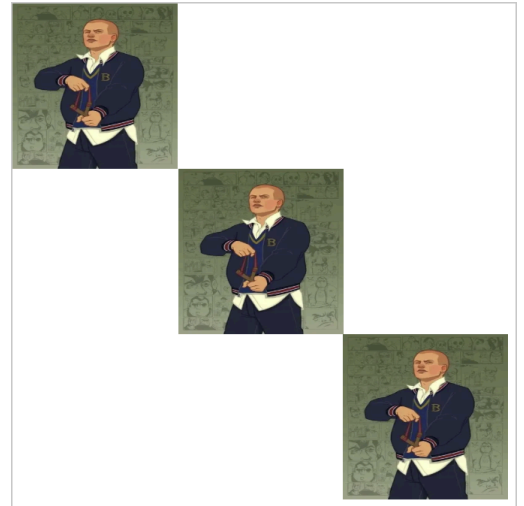
OUTPUT:

7.Design an HTML Page having 3 images placed in the following format

```html
<html>

    <header></header>
<body>
<style>
    table{
        border-collapse: collapse;
        width: 400px;
        text-align: center;
    }
    .center-cell img{
        width:100%;
        object-fit:cover;
        display:block
    }
    .center-cell {
        padding: 0px;
    }
</style>
<table border="1" cellpadding="10" cellspacing="">
    <tr>
        <th>1</th>
        <th>2</th>
        <th>3</th>
        <th>4</th>
    </tr>
    <tr>
        <td>5</td>
        <td rowspan="2" colspan="2" class="center-cell"><img
src="https://imgs.search.brave.com/Bwvk8wikJjEi4_URxD72Ie01tmXUe4c4tC1pxmKVQA0/rs:fit:
860:0:0:0/g:ce/aHR0cHM6Ly9zdGF0/aWMud2lraWEubm9j/b29raWUubmV0L2lu/Y29uc2lzdGVudGx5/LWF
kbWlyYWJsZS9p/bWFnZXMvMi8yMS9K/aW1teUhvcGtpbnMu/cG5nL3JldmlzaW9u/L2xhdGVzdC9zY2Fs/ZS10
by13aWR0aC1k/b3duLzI2OD9jYj0y/MDI0MDEwOTIzNDcw/Mw" width="20" height="80"
alt="bully"></td>
        <td>6</td>
    </tr>
      <tr>
        <td>9</td>
        <td>10</td>

    </tr>
    <tr>
        <td>13</td>
        <td>14</td>
        <td>15</td>
        <td>16</td>
    </tr>
</table>
</body>
</html>
```

WEEK 05

1.Create a NumPy array and display its shape, size, and data type.

```python
import numpy as np

arr=np.array([[1,2,3,4],[5,6,7,8]])

print("Array: ")
print(arr.shape)
print(arr.size)
print(arr.dtype)
print(arr+5)
```

OUTPUT:

```
 Array:
 (2, 4)
 8
 int64
 [[ 6  7  8  9]
  [10 11 12 13]]
```

2.Perform at least five basic arithmetic operations on NumPy arrays (addition of two arrays, subtraction, etc.).

```python
import numpy as np

arr1=np.array([[1,2,3],[4,5,6]])
arr2=np.array([[7,8,9],[10,11,12]])
print(arr1+arr2 ,"\n")
print(arr1-arr2 ,"\n")
print(arr1*arr2 ,"\n")
print(arr2//arr1 ,"\n")
print(arr2**arr1 ,"\n")
```

OUTPUT:

```
[[ 8 10 12]
 [14 16 18]]

[[-6 -6 -6]
 [-6 -6 -6]]

[[ 7 16 27]
 [40 55 72]]

[[7 4 3]
 [2 2 2]]

[[     7      64     729]
 [  10000  161051 2985984]]
```

3. Create a NumPy array having numbers between 1 to 100 and print only the prime numbers in them.

```python
import numpy as np
arr=np.array([i for i in range(1,101)])

primes=[]

for num in arr:
    if num>1:
        is_prime=True
        for i in range(2,int(num**(0.5)+1)):
            if num%i==0:
                is_prime=False
                break
        if is_prime:
            primes.append(int(num))


print(primes)
```

OUTPUT:

```
[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97]
```

4. Take a NumPy array and demonstrate indexing and slicing on it.

```python
import numpy as np
arr1 = np.array([10, 20, 30, 40, 50, 60])

print("1D array:", arr1)
print("First element:", arr1[0])
print("Last element:", arr1[-1])
print("Slice 1 to 4:", arr1[1:5])
print("Every other element:", arr1[::2])
print("Reversed array:", arr1[::-1])
```

OUTPUT:

```
1D array: [10 20 30 40 50 60]
First element: 10
Last element: 60
Slice 1 to 4: [20 30 40 50]
Every other element: [10 30 50]
Reversed array: [60 50 40 30 20 10]
```

5. Write the code to develop a Web page, as shown below, using frames (layout titled "My Frames").

Main.html:

```html
<!DOCTYPE html>
<html>
<head>
 <title>My Frames</title>
</head>

<frameset cols="50%,50%">
 <
 <frame src="left.html" name="leftFrame" />

 <frameset rows="50%,50%">
   <frame src="topright.html" name="topRightFrame" />

   <frameset cols="50%,50%">
     <frame src="bottomright.html" name="bottomRightLeftFrame" />
     <frame src="bottomright.html" name="bottomRightRightFrame" />
   </frameset>
 </frameset>
</frameset>

</html>
```
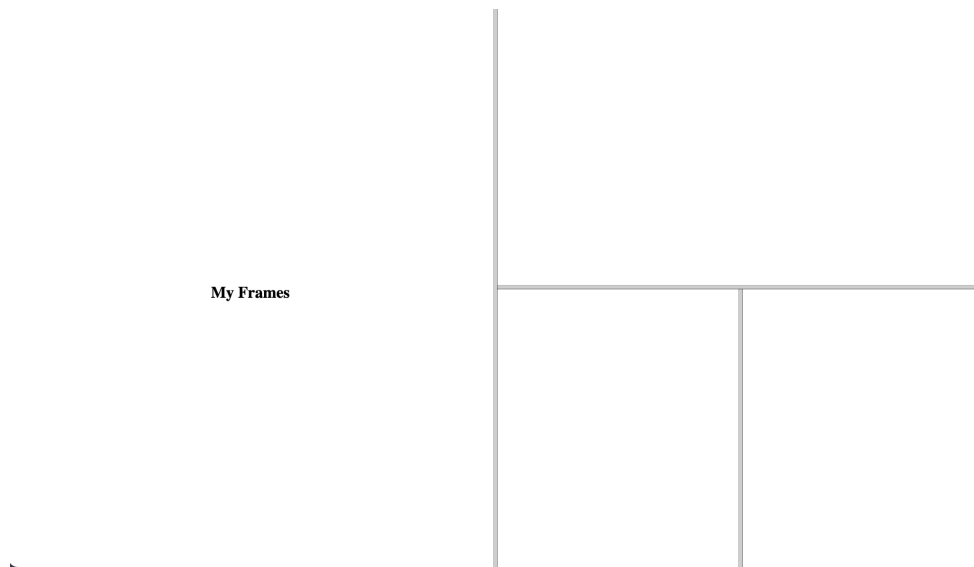
Left.html:

```html
<!DOCTYPE html>

<html>

<head><title>Left Frame</title></head>

<body style="display:flex;align-items:center; justify-content:center ; height:100vh">
 <h2>My Frames</h2>
</body>

</html>
```

TopRifght.html:

```html
<!DOCTYPE html>

<html>

<head><title>Top Right</title></head>

<body>

</body>

</html>
```

bottomRight.html:

```html
<!DOCTYPE html>
<html>
<head><title>Top Right</title></head>
<body>
</body>
</html>
```

OUTPUT:

My Frames

6.Design a page with a text box called 'name' and a button with label 'Enter.' When you click on the button, another page should open, with the message "Welcome ", where name should be equal to the name entered in the first page. Set default value of 'name' text box to Victoria. Add another button called Reset; on click of this button name 'text box' should be set to default values.

Code A:

```html
<!DOCTYPE html>
<html>
<head>
 <title>Enter Name</title>
 <script>
   function openWelcomePage() {

     const name = document.getElementById('name').value;

     window.open('w5q6b.html?name=' + encodeURIComponent(name), '_blank');
   }

   function resetName() {
      document.getElementById('name').value = '100';
   }
 </script>
</head>
<body>
 <label for="name">Name: </label>
 <input type="text" id="name" name="name" value="victoria" />

 <button type="button" onclick="openWelcomePage()">Enter</button>
 <button type="button" onclick="resetName()">Reset</button>
</body>
</html>
```

Code B:

```html
<!DOCTYPE html>
<html>
<head>
 <title>Welcome</title>
 <script>
   function getQueryParam(param) {
     const urlParams = new URLSearchParams(window.location.search);
     return urlParams.get(param);
   }

   window.onload = function() {
     const name = getQueryParam('name') || 'Guest';
     document.getElementById('welcomeMessage').textContent = 'Welcome ' + name;
   }
 </script>
</head>
<body>
 <h1 id="welcomeMessage">Welcome</h1>
</body>
</html>
```

OUTPUT:

Name: victoria   Enter   Reset

7. Design a form in HTML using all input types.

```html
<!DOCTYPE html>
<html>
<head>
 <title> Form</title>
</head>
<body>

 <h2> HTML Form</h2>

 <form action="#" >
   <label for="name">Name:</label><br />
   <input type="text" id="name" name="name" placeholder="Enter your name" /><br /><br
/>

   <label for="email">Email:</label><br />
   <input type="email" id="email" name="email" placeholder="Enter your email" /><br
/><br />

   <label for="password">Password:</label><br />
   <input type="password" id="password" name="password" /><br /><br />

   <label for="age">Age:</label><br />
   <input type="number" id="age" name="age" min="1" max="100" /><br /><br />

   <label>Gender:</label><br />
   <input type="radio" id="male" name="gender" value="male" />
   <label for="male">Male</label><br />
   <input type="radio" id="female" name="gender" value="female" />
   <label for="female">Female</label><br /><br />

   <label for="country">Country:</label><br />
   <select id="country" name="country">
     <option value="">Select your country</option>
     <option value="usa">USA</option>
     <option value="uk">UK</option>
     <option value="india">India</option>
   </select><br /><br />

   <input type="checkbox" id="subscribe" name="subscribe" />
   <label for="subscribe">Subscribe to newsletter
       </label><br /><br />

   <input type="submit" value="Submit" />
 </form>

</body>
</html>
```

OUTPUT:

HTML Form

Name:

[Enter your name]

Email:

[Enter your email]

Password:

[   ]

Age:

[   ]

Gender:
○ Male
○ Female

Country:
[Select your country ∨]

☐ Subscribe to newsletter

[Submit]