Web Programming
Lab – 5
HTML – Semantic tags, Frames & Media Elements

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Course Code: BCSE203E
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Question 1:

(A) Design a web page using HTML frames to divide it into multiple sections, including a **header**, **navigation**, **main content**, **aside**, and **footer**. In the **main content frame**, create a professional resume using semantic HTML5 tags. Incorporate the following elements:

1. `<header>`: For the top section, showcasing your name, professional title, and a tagline.
2. `<nav>`: To provide navigation links for easy access to various sections of the resume (e.g., About Me, Education, Experience, Skills).
3. `<section>`: To structure key content areas, such as education, work experience, and technical skills.
4. `<article>`: To detail specific achievements, projects, or publications.
5. `<aside>`: To display supplementary information, such as quick facts, a brief profile summary, or links to a portfolio.
6. `<figure>`: To include images (e.g., profile photo or project visuals) with captions.
7. `<progress>`: To visually represent proficiency levels for different skills.
8. `<meter>`: To highlight measurable achievements, certifications, or milestones.
9. `<details>` and `<summary>`: To toggle additional information, such as hobbies, extracurricular activities, or future goals.
10. `<footer>`: To include contact details, social media links, and additional resources.

Ensure the page is divided as follows:

- The **header** is displayed in a dedicated frame at the top.
- The **navigation** is shown in a vertical frame on the left.
- The **main content** occupies the central frame.
- The **aside** is placed in a frame on the right for supplementary information.
- The **footer** is displayed in a frame at the bottom.

Focus on creating a visually appealing, accessible, and well-structured layout. The sample webpage is shown below.

Code:
ex1.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>23BCE1728</title>
</head>
<frameset rows="15%,*,20%" border="2">
    <frame src="header.html">
    <frameset cols="15%,65%,20%" border="2">
        <frame src="navigation.html">
        <frame src="main_content.html" name="main_content">
        <frame src="aside.html">
    </frameset>
    <frame src="footer.html">
</frameset>
</html>
```

header.html

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

```html
        <title>Document</title>
</head>
<body style="background-color: rgb(206, 205, 205);">
    <header>
        <h1 align="center">My Professional Resume</h1>
    </header>
</body>
</html>
```

navigation.html

```html
<!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>
    <nav>
        <a href="main_content.html#about_me" target="main_content">About me</a><br>
        <a href="main_content.html#education" target="main_content">Education</a><br>
        <a href="main_content.html#experience" target="main_content">Experience</a><br>
        <a href="main_content.html#skills" target="main_content">Skills</a><br>
        <a href="ex2.html" target="main_content">Media</a><br>
    </nav>
</body>
</html>
```

main_content.html

```html
<!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>
    <article>
        <h3 id="about_me">About Me</h3>
        <p align="justify">I am a Computer Science and Engineering student at VIT Chennai with a passion
for problem-solving and creating efficient and impactful solutions. I have a strong foundation in Data
Structures and Algorithms and I am skilled in programming languages like Python, Java, C, and C++. I also
have experience in data analytics, using tools such as MySQL, Spreadsheets, Tableau, and R to uncover
meaningful insights and support data-driven decision-making. I am currently expanding my knowledge in web
development tools like HTML, CSS and JavaScript.</p>
        <p align="justify">I take on challenges with a calm, focused mindset and always prioritize
sincerity and precision in my work. With a forward-thinking approach, I adapt quickly to demanding
situations and consistently aim to achieve excellence in everything I do.</p>
        <figure>
            <center>
                <img src="pp.jpg" width="130" alt="">
            </center>
        </figure>
        <h3 id="education">Education</h3>
        <ul>
            <li>
                <b>Vellore Institute of Technology</b><br>
                Bachelor of Engineering - BE, Computer Science<br>
                2023 - 2027<br>
                CGPA: 9.35
                <meter value="9.35" min="0" max="10">CGPA Meter</meter>
            </li>
            <li>
                <b>Holy Heart Day Boarding Public School, Fazilka</b><br>
                Senior Secondary Education <br>
                Grade: 88% (Class XII)
                <meter value="88" min="0" max="100">Marks Meter</meter>
            </li>
            <li>
                <b>Sacred Heart Convent School, Fazilka</b><br>
                High School Education <br>
                Grade: 94% (Class X)
```

```html
                <meter value="94" min="0" max="100">Marks Meter</meter>
            </li>
        </ul>
        <h3 id="experience">Experience</h3>
        <ul>
            <li>
                <b>NexSeed Club, VITC</b><br>
                Design Team Member<br>
            </li>
            <li>
                <b>VIT Finance and Management Club</b><br>
                Content & Design Team Member<br>
            </li>
            <li>
                <b>PlaceXP Club, VITC</b><br>
                Creative Team Member<br>
            </li>
        </ul>
        <h3 id="skills">Skills</h3>
        <details>
            <summary>Web Development</summary>
            <progress value="80" max="100"></progress>
            <ul>
                <li>HTML</li>
                <li>CSS</li>
                <li>JavaScript</li>
            </ul>
        </details>
        <details>
            <summary>Data Analytics</summary>
            <progress value="80" max="100"></progress>
            <ul>
                <li>MySQL</li>
                <li>Spreadsheets</li>
                <li>Tableau</li>
                <li>Google BigQuery</li>
                <li>R Programming Language</li>
            </ul>
        </details>
        <details>
            <summary>
                Coding Languages
            </summary>
            <progress value="80" max="100"></progress>
            <ul>
                <li>Java</li>
                <li>Python</li>
                <li>C</li>
                <li>C++</li>
            </ul>
        </details>
    </article>
</body>
</html>
```

aside.html

```html
<!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>
    <aside>
        <h3>Quick Facts</h3>
        <ul>
            <li>Proficient in English, Hindi & Punjabi.</li>
            <li>I value Sincerity & Precision in my Work.</li>
            <li>I foster collaboration and resolves conflicts with composure.</li>
            <li>I organize and prioritize tasks to meet deadlines.</li>
        </ul>
    </aside>
```

```
</body>
</html>
```

footer.html

```html
<!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 align="center" style="background-color: rgb(214, 214, 214);">
    <footer>
        <h3>Contact Details</h3>
        <a href="https://www.linkedin.com/in/sushen-grover-2b3314290/">Linkedin</a>
        |
        <a href="https://www.instagram.com/sushen.grover/">Instagram</a>
        |
        <a href="tel:+917009367016">70093-67016</a>
        |
        <a href="mailto:groversushen@gmail.com">groversushen@gmail.com</a>
        <p>&copy; 2025 My Website</p>
    </footer>
</body>
</html>
```

Output:

My Professional Resume

Education

- **Vellore Institute of Technology**
  Bachelor of Engineering - BE, Computer Science
  2023 - 2027
  CGPA: 9.35 ▰▰▰▰
- **Holy Heart Day Boarding Public School, Fazilka**
  Senior Secondary Education
  Grade: 88% (Class XII) ▰▰▰▰▰
- **Sacred Heart Convent School, Fazilka**
  High School Education
  Grade: 94% (Class X) ▰▰▰▰▰

Experience

- **NexSeed Club, VITC**
  Design Team Member
- **VIT Finance and Management Club**
  Content & Design Team Member
- **PlaceXP Club, VITC**
  Creative Team Member

Skills

Quick Facts

- Proficient in English, Hindi & Punjabi.
- I value Sincerity & Precision in my Work.
- I foster collaboration and resolves conflicts with composure.
- I organize and prioritize tasks to meet deadlines.

Contact Details

Linkedin | Instagram | 70093-67016 | groversushen@gmail.com

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My Professional Resume

2023 - 2027
CGPA: 9.35 ▬▬▬▬

- **Holy Heart Day Boarding Public School, Fazilka**
  Senior Secondary Education
  Grade: 88% (Class XII) ▬▬▬
- **Sacred Heart Convent School, Fazilka**
  High School Education
  Grade: 94% (Class X) ▬▬▬

Experience

- **NexSeed Club, VITC**
  Design Team Member
- **VIT Finance and Management Club**
  Content & Design Team Member
- **PlaceXP Club, VITC**
  Creative Team Member

Skills

▸ Web Development
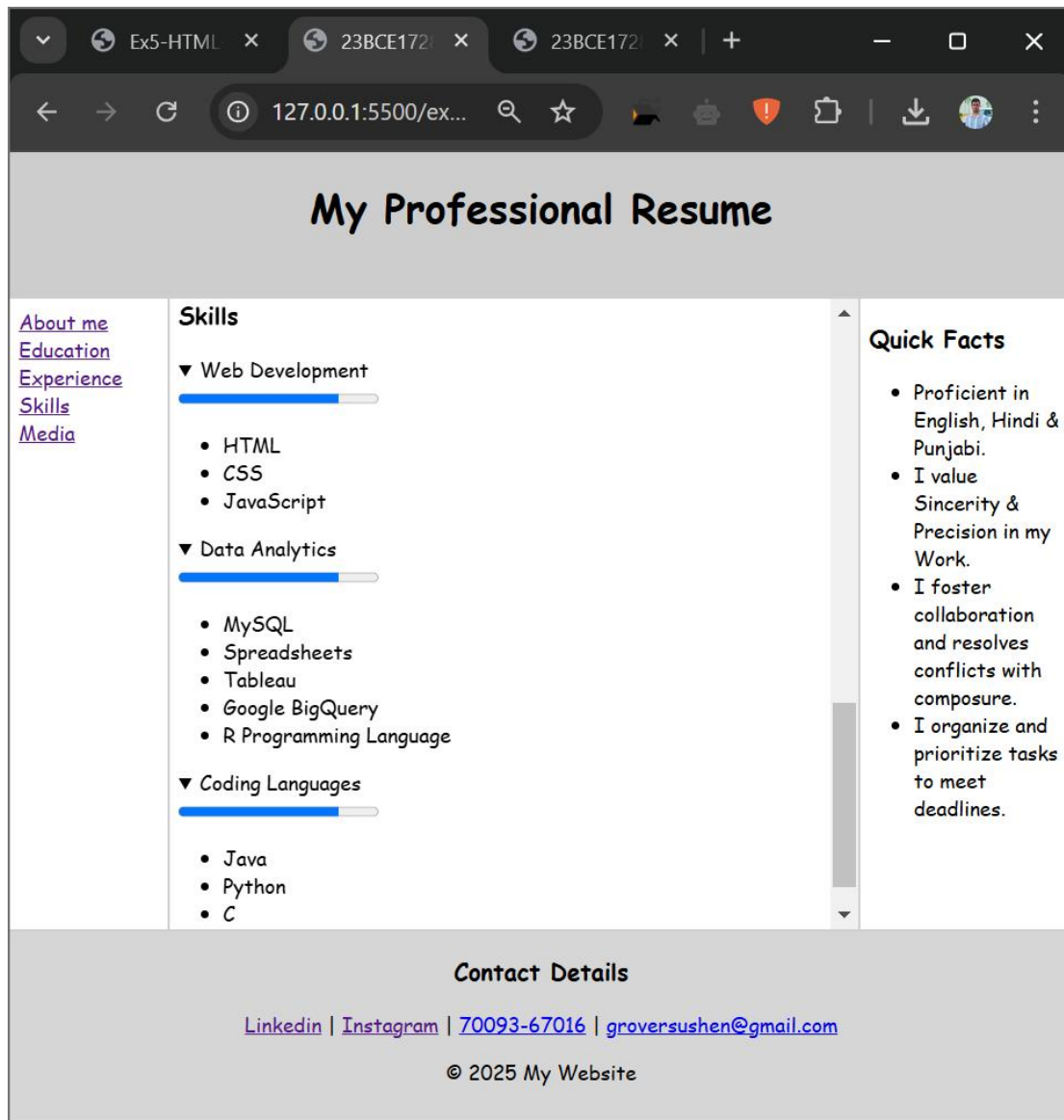▸ Data Analytics
▸ Coding Languages

Quick Facts

- Proficient in English, Hindi & Punjabi.
- I value Sincerity & Precision in my Work.
- I foster collaboration and resolves conflicts with composure.
- I organize and prioritize tasks to meet deadlines.

Contact Details

Linkedin | Instagram | 70093-67016 | groversushen@gmail.com

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Question 2:

(B) Display media and graphic elements (given below) on the centre frame by clicking the navigation link Media (Audio, Video, SVG and Canvas). Use **iframe** for displaying SVG

Code:
ex2.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>23BCE1728</title>
</head>
<frameset cols="30%,70%" border="2">
    <frame src="media.html">
    <frame src="svg.html">
</frameset>
</html>
```

media.html

```html
<!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>
    <h3>Audio</h3><br>
    <audio src="Winning Speech.mp3" controls></audio>
    <h3>Video</h3><br>
    <video src="Happy Ganesh Chaturthi (Nexseed Club).mp4" height="300" autoplay controls></video>
    <h3>Canvas</h3><br>
    <canvas width="400" height="200" style="border:1px solid #000" id="myCanvas"></canvas>
    <script>
        const canvas = document.getElementById('myCanvas');
        const ctx = canvas.getContext('2d');
        //rectangle with a gradient
        const gradient = ctx.createLinearGradient(0, 0, canvas.width, 0);
        gradient.addColorStop(0, "red");
        gradient.addColorStop(1, "blue");
        ctx.fillStyle = gradient;
        ctx.fillRect(0, 0, canvas.width, canvas.height / 2);
        //circle
        ctx.beginPath();
        ctx.arc(200, 150, 50, 0, 2 * Math.PI);
        ctx.fillStyle = "green";
```

```
        ctx.fill();
        ctx.stroke();
    </script>
</body>
</html>
```

svg.html

```
<!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>
    <h1>My House using SVG</h1>
    <svg width="620" height="620" style="border: 4px solid black;">
        <rect x="200" y="400" width="200" height="200" style="fill:rgb(110, 29, 29);stroke:black;stroke-width:5"></rect>
        <polygon points="200,400 400,400 300,200" style="fill:rgb(183, 7, 7);stroke:black;stroke-width:5px"></polygon>
        <circle cx="300" cy="330" r="30" style="fill:yellow;stroke:black;stroke-width:2 px"></circle>
        <rect x="220" y="420" width="40" height="40" style="fill:rgb(170, 212, 229);stroke:black;stroke-width:5"></rect>
        <rect x="340" y="420" width="40" height="40" style="fill:rgb(170, 212, 229);stroke:black;stroke-width:5"></rect>
        <rect x="270" y="580" width="60" height="20" style="fill:rgb(157, 155, 155);stroke:black;stroke-width:3"></rect>
        <rect x="275" y="600" width="50" height="10" style="fill:rgb(157, 155, 155);stroke:black;stroke-width:3"></rect>
        <rect x="280" y="480" width="40" height="100" style="fill:rgb(57, 26, 26);stroke:black;stroke-width:5"></rect>
        <polygon points="410,75 418,96 440,96 423,109 430,130 410,118 390,130 397,109 380,96 402,96" fill="yellow" stroke="black" stroke-width="2" />
        <circle cx="520" cy="100" r="70" fill="lightyellow" stroke="black" stroke-width="2" />
        <circle cx="560" cy="80" r="70" fill="white" />
    </svg>
</body>
</html>
```

Output: