EXPERIMENTS 1 : HTML & CSS

a) Create a web page to embed a map along with hot spot, frames & links.

AIM :

Embed an interactive map with clickable hotspots, external frames, and navigation links for a dynamic user experience.

ALGORITHM :

- **Start**:
  - Open an HTML document and structure it with the basic tags: `<html>`, `<head>`, and `<body>`.
- **Map Embedding**:
  - Use an iframe to embed a Google Map.
  - Get the embed URL of the desired map location (e.g., Google Maps URL) and insert it in the `src` attribute of the iframe.
- **Hotspot Creation**:
  - Use the `<map>` tag to define areas within the map that can be clicked (hotspots).
  - Each hotspot should be defined using the `<area>` tag and should link to a relevant page, e.g., a new map location.
- **Frames for External Content**:
  - Use `<iframe>` to embed external content (e.g., Wikipedia or any other site).
- **Adding Links**:
  - Create hyperlinks (`<a>`) that allow users to navigate to external websites or internal sections of the page.
- **Styling**:
  - Use internal CSS (within the `<style>` tag) to style the map container, hotspots, and frames to ensure they look clean and professional.
- **End**:
  - Close the HTML tags properly, ensuring a well-structured, responsive, and interactive webpage.

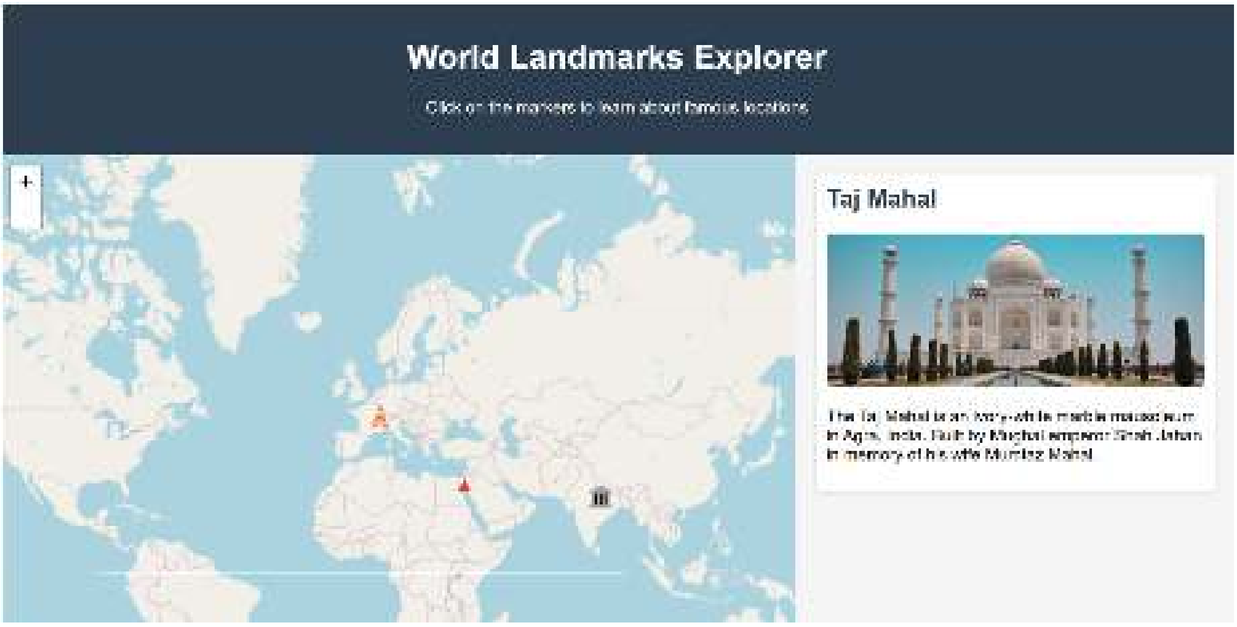
CODE:

```
            <!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Interactive Map Without API Key</title>
  <!-- Leaflet CSS -->
  <link rel="stylesheet" href="https://unpkg.com/leaflet@1.9.4/dist/leaflet.css" />
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      padding: 0;
    }
    #header {
      background-color: #2c3e50;
      color: white;
      padding: 20px;
      text-align: center;
    }
    #map-container {
      display: flex;
      height: 80vh;
    }
    #map {
      flex: 2;
      height: 100%;
    }
    #sidebar {
      flex: 1;
      padding: 20px;
      background-color: #f5f5f5;
      overflow-y: auto;
    }
    .location-info {
      display: none;
      padding: 10px;
      background-color: white;
      border-radius: 5px;
      margin-bottom: 10px;
      box-shadow: 0 2px 5px rgba(0,0,0,0.1);
    }
    .location-info.active {
      display: block;
    }
    .location-title {
      color: #2c3e50;
      margin-top: 0;
    }
    .location-img {
      width: 100%;
      height: 150px;
      object-fit: cover;
      border-radius: 5px;
    }
  </style>
</head>
<body>
```

```
    <div id="header">
        <h1>World Landmarks Explorer</h1>
        <p>Click on the markers to learn about famous locations</p>
    </div>

    <div id="map-container">
        <div id="map"></div>
        <div id="sidebar">
            <div id="welcome" class="location-info active">
                <h2 class="location-title">Welcome!</h2>
                <p>Click on any marker on the map to learn about famous landmarks.</p>
                <img src="https://images.unsplash.com/photo-1467269204594-9661b134dd2b?ixlib=rb-1.2.1&auto=format&fit=crop&w=800&q=80"
                     alt="World landmarks" class="location-img">
            </div>

            <div id="taj-mahal" class="location-info">
                <h2 class="location-title">Taj Mahal</h2>
                <img src="https://images.unsplash.com/photo-1564507592333-c60657eea523?ixlib=rb-1.2.1&auto=format&fit=crop&w=800&q=80"
                     alt="Taj Mahal" class="location-img">
                <p>The Taj Mahal is an ivory-white marble mausoleum in Agra, India. Built by Mughal emperor Shah Jahan in memory of his wife Mumtaz Mahal.</p>
            </div>

            <div id="pyramids" class="location-info">
                <h2 class="location-title">Pyramids of Giza</h2>
                <img src="https://images.unsplash.com/photo-1503177119275-0aa32b3a9368?ixlib=rb-1.2.1&auto=format&fit=crop&w=800&q=80"
                     alt="Pyramids of Giza" class="location-img">
                <p>The Great Pyramid is the oldest of the Seven Wonders of the Ancient World, built as a tomb for Pharaoh Khufu around 2560 BC.</p>
            </div>

            <div id="eiffel" class="location-info">
                <h2 class="location-title">Eiffel Tower</h2>
                <img src="https://images.unsplash.com/photo-1431274172761-fca41d930114?ixlib=rb-1.2.1&auto=format&fit=crop&w=800&q=80"
                     alt="Eiffel Tower" class="location-img">
                <p>The Eiffel Tower is a wrought-iron lattice tower in Paris, France. It was constructed in 1889 as the entrance to the 1889 World's Fair.</p>
            </div>
        </div>
    </div>

    <!-- Leaflet JS -->
    <script src="https://unpkg.com/leaflet@1.9.4/dist/leaflet.js"></script>
    <script>
        // Initialize the map
        const map = L.map('map').setView([20, 0], 2);

        // Add OpenStreetMap tiles (no API key needed)
        L.tileLayer('https://{s}.tile.openstreetmap.org/{z}/{x}/{y}.png', {
            attribution: '&copy; <a href="https://www.openstreetmap.org/copyright">OpenStreetMap</a> contributors'
        }).addTo(map);

        // Define locations with coordinates and info
        const locations = [
            {
```

```
        id: 'taj-mahal',
        name: 'Taj Mahal',
        coords: [27.1751, 78.0421],
        icon: L.divIcon({className: 'custom-icon', html: '🏛️'})
      },
      {
        id: 'pyramids',
        name: 'Pyramids of Giza',
        coords: [29.9792, 31.1342],
        icon: L.divIcon({className: 'custom-icon', html: '🔺'})
      },
      {
        id: 'eiffel',
        name: 'Eiffel Tower',
        coords: [48.8584, 2.2945],
        icon: L.divIcon({className: 'custom-icon', html: '🗼'})
      }
    ];

    // Add markers to the map
    locations.forEach(location => {
      const marker = L.marker(location.coords, {
        icon: location.icon,
        title: location.name
      }).addTo(map);

      // Add click event to show info
      marker.on('click', () => {
        document.querySelectorAll('.location-info').forEach(info => {
          info.classList.remove('active');
        });
        document.getElementById(location.id).classList.add('active');
        map.setView(location.coords, 12);
      });
    });

    // Style for the markers
    const style = document.createElement('style');
    style.textContent = `
      .custom-icon {
        font-size: 24px;
        text-align: center;
        line-height: 1;
      }
      .leaflet-marker-icon {
        background: transparent;
        border: none;
      }
    `;
    document.head.appendChild(style);
  </script>
</body>
</html>
```

OUTPUT :

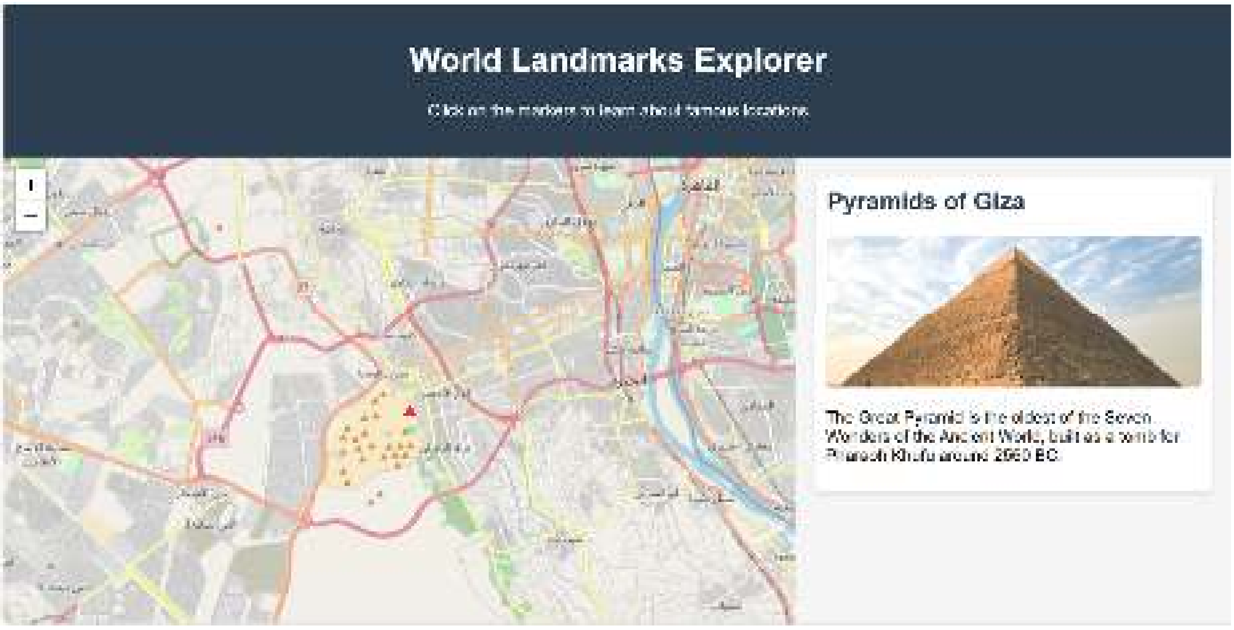


World Landmarks Explorer

Click on the markers to learn about famous locations

Taj Mahal

The Taj Mahal is an ivory-white marble mausoleum in Agra, India. Built by Mughal emperor Shah Jahan in memory of his wife Mumtaz Mahal.



World Landmarks Explorer

Click on the markers to learn about famous locations

Pyramids of Giza

The Great Pyramid is the oldest of the Seven Wonders of the Ancient World, built as a tomb for Pharaoh Khufu around 2560 BC.

RESULT :

Thus the give task is executed successfully.

b) Create a web page using an embedded, external and inline CSS file.

AIM:

Demonstrate the use of inline, embedded, and external CSS to style a webpage with a clean and professional design.

ALGORITHM:

- **Start**:
  - Open an HTML document and structure it with the basic tags: `<html>`, `<head>`, and `<body>`.
- **Inline CSS**:
  - In the body of the document, apply inline CSS using the `style` attribute within HTML tags (for example, styling a paragraph directly).
- **Embedded CSS**:
  - Inside the `<head>` section, use a `<style>` tag to write embedded CSS. This will apply styling rules to elements on the webpage, such as font, colors, and layouts.
- **External CSS**:
  - Create an external CSS file (e.g., `styles.css`) with all the styles for the webpage.
  - Link the external CSS file to the HTML document using the `<link>` tag in the `<head>` section.
- **Add Content**:
  - Add content to the webpage, such as headings, paragraphs, buttons, and links, and apply the corresponding CSS classes to style them according to the method used (inline, embedded, or external).
- **Styling Elements**:
  - Use the external CSS file to define the layout and general styles (e.g., button styles, header styles).
  - Use embedded CSS for specific styles within the webpage.
  - Use inline CSS for unique, quick styling on individual elements.
- **End**:
  - Close the HTML tags properly, ensuring that the external, embedded, and inline styles are applied effectively, providing a well-styled webpage.

CODE :

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>CSS Demo</title>
  <link rel="stylesheet" href="styles.css">
  <style>
    body {
      font-family: 'Arial', sans-serif;
      background: #f0f2f5;
      margin: 0;
      padding: 0;
    }
    header {
      background: linear-gradient(90deg, #ff9a9e, #fbc2eb, #a6c1ee);
      color: white;
      text-align: center;
      padding: 2rem;
      box-shadow: 0 4px 6px rgba(0,0,0,0.1);
    }
  </style>
</head>
<body>
  <header style="text-shadow: 1px 1px 3px rgba(0,0,0,0.2);">
    <h1 style="margin: 0; font-size: 2.5rem;">CSS Styles</h1>
  </header>


  <main class="container">
    <section id="inline-example" style="background: #fff0f0; border-left: 5px solid #ff6b6b;">
      <h2 style="color: #ff6b6b;">Inline</h2>
```

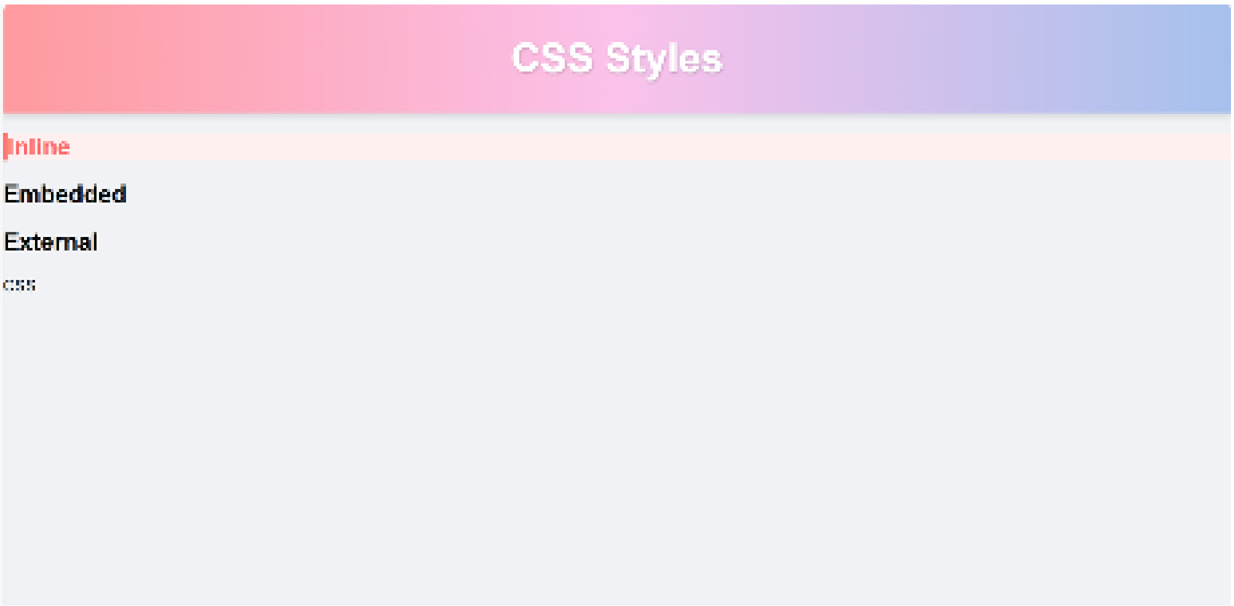
```
        </section>

        <section id="embedded-example">
            <h2>Embedded</h2>
        </section>

        <section id="external-example">
            <h2>External</h2>
        </section>

        <div class="color-blocks">
            <div style="background: #ff9a9e;"></div>
            <div style="background: #fbc2eb;"></div>
            <div style="background: #a6c1ee;"></div>
        </div>
    </main>

    <footer>
        <p>CSS </p>
    </footer>
</body>
</html>
```

External CSS File :

```
/* styles.css */

.container {

   max-width: 800px;

   margin: 2rem auto;

   padding: 0 1rem;

}

Section {

   margin-bottom: 1rem;

   padding: 1.5rem;

   border-radius: 8px;

   transition: transform 0.2s;

}

section:hover {

   transform: translateY(-3px);

}

#embedded-example {

   background: #f0fff4;

   border-left: 5px solid
#48bb78;

}

#embedded-example h2 {

   color: #48bb78;

}
```

```
 #external-example {
    background: #f0f9ff;
    border-left: 5px solid
 #4299e1;
 }
#external-example h2 {
    color: #4299e1;
 }
 .color-blocks {
    display: flex;
    height: 60px;
    border-radius: 8px;
    overflow: hidden;
    margin-top: 2rem;
 }
 .color-blocks div {
    flex: 1;
    transition: flex 0.3s;
 }
 .color-blocks div:hover {
    flex: 1.5;
 }
 footer {
    text-align: center;
    padding: 1rem;

    background: #2d3748;

    color: white;

    position: fixed;

    bottom: 0;

    width: 100%;

}
```

OUTPUT:



CSS Styles

Inline

Embedded

External

css

RESULT:

Thus the given task is executes successfully.