Hands-on Activity 2.3 | Exploring HTML Beyond Basics	
Course Code: CPE025B	**Program: BSCPE**
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1. Discussion

In the module 6 of the HTML Essentials it discusses the different more advanced elements and tags available in HTML. These are the different things that we can implement to make the website more appealing and also it can perform different functionalities. Some are graphics related in which these are the Iframes and HTML Images which we can use to present media onto our website. Also there is a way for present geolocation information through Image maps. Overall, this module is for exploring more implementation of media on our website to make it more dynamic and interactive to the users.

3. Procedure

6.8.1 World Discovery Web Page

Scenario

You are part of a collaborative project aiming to create an interactive web page titled "Discover Your World". This page is designed to educate users about different continents and their unique geographical features through a fun and engaging interactive map. You've been tasked with setting up the HTML structure and ensuring that the page is visually appealing and functional. Another developer from your team will handle the JavaScript functionality, providing scripts for geolocation features and interactions with the map.

As the front-end developer, your job is to prepare the groundwork for this interactive experience. You will:

- Add a Favicon – ensure the web page stands out with a globe-themed favicon to match the world discovery theme.
- Embellish with Emojis – make the header more inviting by incorporating a globe emoji.
- Prepare for Geolocation – insert a button that will later be linked to geolocation functionality, allowing users to discover which continent they're currently on based on their physical location.
- Create an Interactive Map – using an image of the world map, define

clickable areas corresponding to each continent. This map will later be scripted to display information about each continent, such as major rivers, mountains, and landmarks.

Once your tasks are completed, the web page will display a beautiful world map, inviting users to click on a continent to learn more about it. The geolocation button will enhance the interactive experience by providing users with personalized information based on their location. This project, when combined with the JavaScript functionality provided by your teammate, will offer an educational and engaging way to learn about our world.

Remember, the JavaScript functionality, including handling clicks on the map areas and implementing the geolocation feature, will be provided by another developer on your team. Your focus is on setting up the HTML structure and ensuring the page is ready for those interactive elements to be integrated.

Instructions

Follow the instructions below to create the webpage step by step:

1. Favicon Addition

- Start by adding a globe favicon to the page to give it a distinctive appearance in browser tabs, drawing users into the global theme immediately. Use the *web-favicon.png* file as your favicon. In the `<head>` section of your HTML document, use the `<link>` tag to link to your favicon file. Use the `rel` attribute with the value "icon" and the `href` attribute to specify the path to your favicon file: "https://edube.org/uploads/media/default/0001/04/web-favicon.png".

2. Link to an External JavaScript File

- Prepare for dynamic interactions by linking an external JavaScript file. This script will handle user interactions and display continent-specific information. In the `<head>` section or just before the closing tag of your HTML document, add a `<script>` tag with the `src` attribute pointing to the location of your *script.js* file: "script.js".

3. Add an Emoji to Your Heading

- Add a globe emoji to the page title to emphasize the world exploration theme. Insert the emoji with the codepoint code point U+1F30D directly into the HTML content of your `<h1>` tag. Remember, to specify this emoji in HTML using the codepoint, you need to replace the "U+1" part with the characters "&#x".
- Go to Unicode.org/emoji/charts, choose an emoji that fits the theme of the page, and insert it somewhere into your HTML code.

4. Add a Button for Displaying Geolocation Information

- Implement a feature that allows users to find out which continent they are currently on. Below the paragraph tag, add a `<button>` that, when clicked, uses the Geolocation API to display the user's current continent along with interesting geographical facts..
- Give the button an `id` attribute with the value `getLocation`, and set its text content to something descriptive, like "Discover Location".

5. Define the Continent Areas on Your World Map Image

- Enhance the page with an image map of the world. Users should be able to click on different continents to learn about key geographical features. For each continent on your world map, add an `<area>` tag within the `<map>` tag.
- Use the following attributes to define each continent area:
    - `alt` and `title` for "North America", "South America", "Europe", "Africa", "Asia", and "Australia and Oceania"
    - `id` for "north-america", "south-america", "europe", "africa", "asia", and "australia-and-oceania"
    - `shape` – "rect" for each of the areas
- The `coords` attribute values will depend on the specific areas of your

image map. Use an image map generator or manually determine the coordinates. Alternatively, use the following values: "386,283,41,17" (North America), "209,501,358,288" (South America), "391,68,505,217" (Europe), "533,217,387,448" (Africa), "893,153,506,1" (Asia), and "679,353,872,480" (Australia and Oceania).

6. Test and Review

- Validate the HTML to ensure it meets web standards.
- Experiment, experiment, experiment!

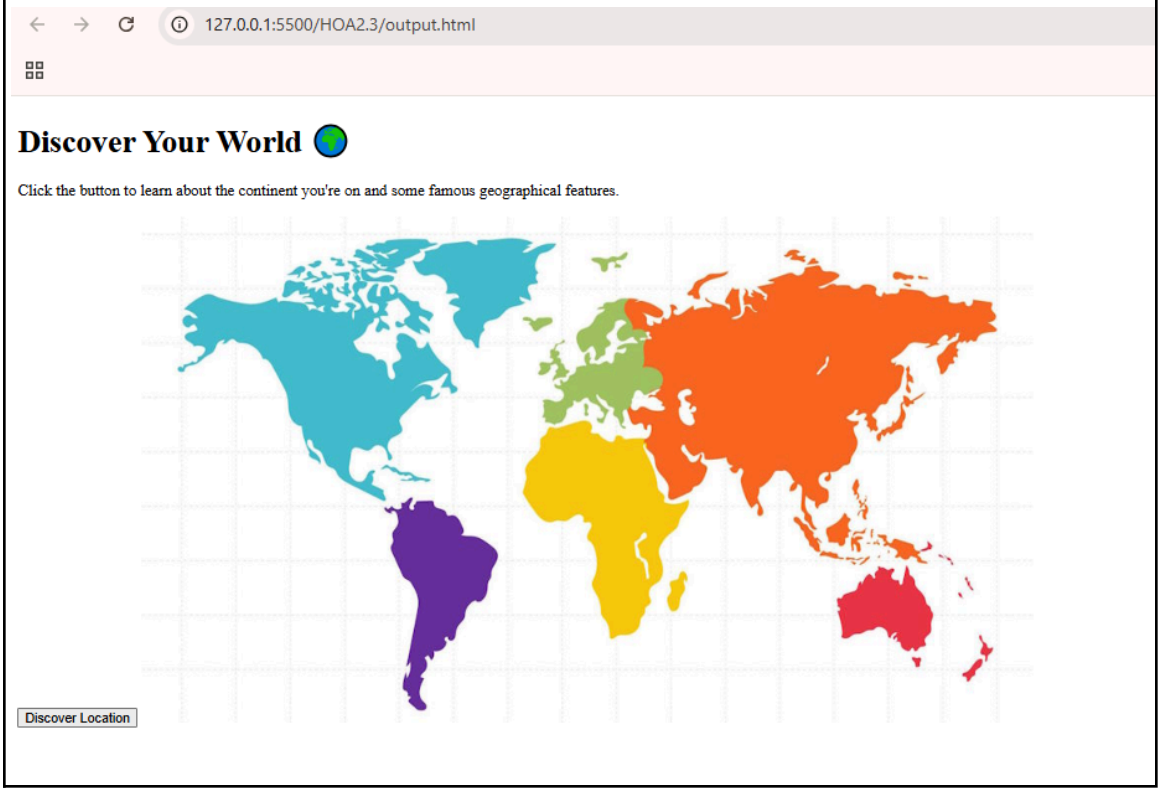
4. Output

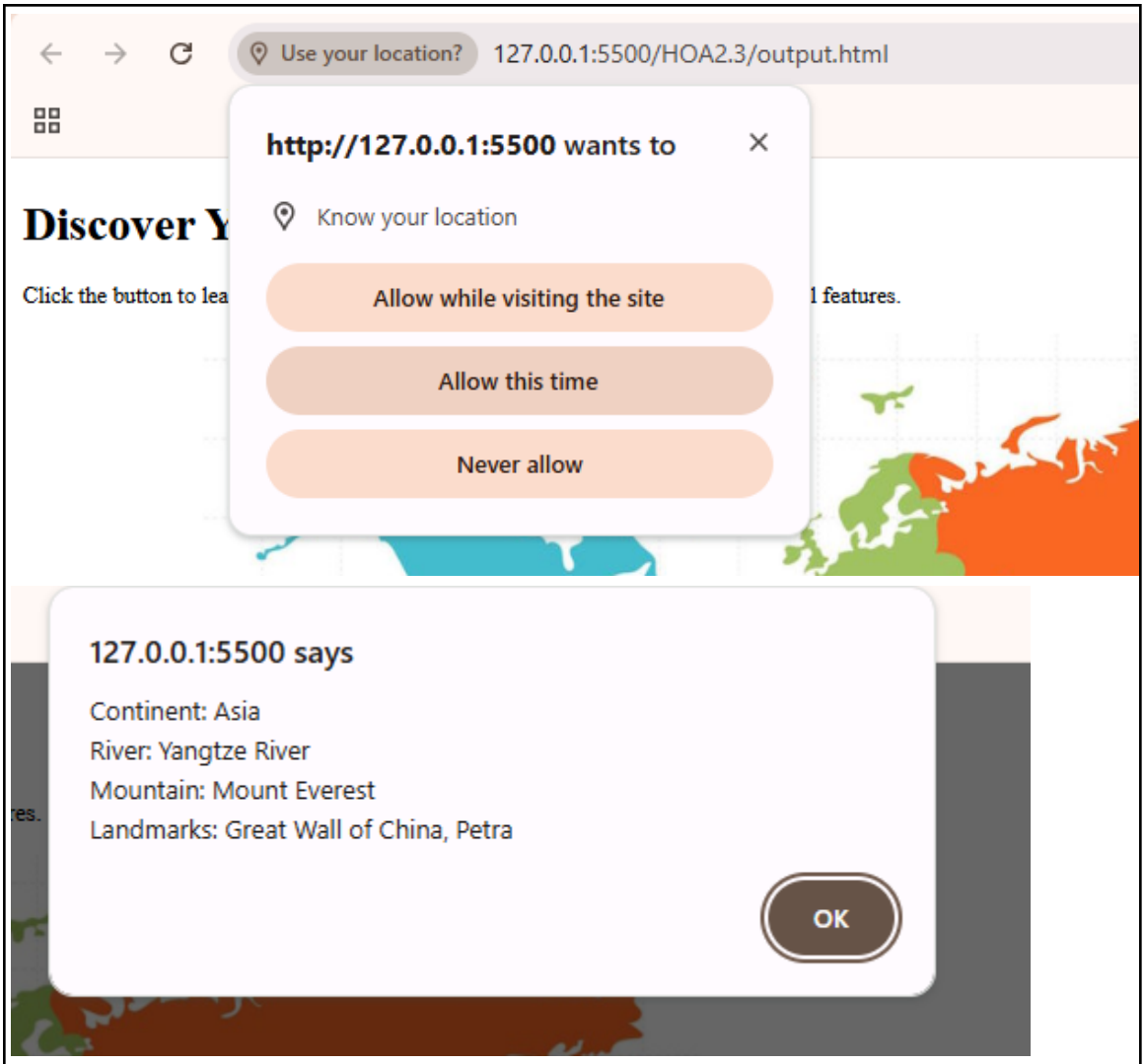
```HTML
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Discover Your World</title>

    <link rel="icon"
href="https://edube.org/uploads/media/default/0001/04/web-favicon.png"
type="image/png">

    <script src="script.js"></script>
</head>
<body>
    <h1>Discover Your World &#x1F30D</h1>
    <p>Click the button to learn about the continent you're on and some
famous geographical features. </p>

    <button id="discoverLocation">Discover Location</button>

    <img
src="https://edube.org/uploads/media/default/0001/04/continents.jpg"
usemap="#image-map" alt="World Map">
    <map name="image-map">

        <area target="" alt="North America" title="North America"
id="north-america" coords="386,283,41,17" shape="rect"
href="javascript:void(0);">
```

```
        <area target="" alt="South America" title="South America"
id="south-america" coords="209,501,358,288" shape="rect"
href="javascript:void(0);">
        <area target="" alt="Europe" title="Europe" id="europe"
coords="391,68,505,217" shape="rect" href="javascript:void(0);">
        <area target="" alt="Africa" title="Africa" id="africa"
coords="533,217,387,448" shape="rect" href="javascript:void(0);">
        <area target="" alt="Asia" title="Asia" id="asia"
coords="893,153,506,1" shape="rect" href="javascript:void(0);">
        <area target="" alt="Australia and Oceania" title="Australia and
Oceania" id="australia-and-oceania" coords="679,353,872,480"
shape="rect" href="javascript:void(0);">
    </map>

</body>
</html>


<!-- JavaScript code provided by your teammate -->

<script>
document.addEventListener('DOMContentLoaded', function() {
  const continentInfo = {
    'north-america': {
      continent: 'North America',
      river: 'Mississippi River',
      mountain: 'Denali',
      landmarks: 'Grand Canyon, Statue of Liberty, Niagara Falls'
    },
    'south-america': {
      continent: 'South America',
      river: 'Amazon River',
      mountain: 'Aconcagua',
      landmarks: 'Machu Picchu, Galapagos Islands'
    },
    'europe': {
      continent: 'Europe',
      river: 'Danube River',
      mountain: 'Mont Blanc',
      landmarks: 'Eiffel Tower, Colosseum, Acropolis of Athens'
    },
    'africa': {
      continent: 'Africa',
      river: 'Nile River',
      mountain: 'Mount Kilimanjaro',
      landmarks: 'Sphinx, Table Mountain'
    },
    'asia': {
      continent: 'Asia',
      river: 'Yangtze River',
```

```
      mountain: 'Mount Everest',
      landmarks: 'Great Wall of China, Petra'
    },
    'australia-and-oceania': {
      continent: 'Australia and Oceania',
      river: 'Murray River',
      mountain: 'Mount Kosciuszko',
      landmarks: 'Sydney Opera House, Great Barrier Reef, Uluru'
    }
  };

  function displayContinentInfo(continentId) {
    const info = continentInfo[continentId];
    if (info) {
      alert(`Continent: ${info.continent}\nRiver:
${info.river}\nMountain: ${info.mountain}\nLandmarks:
${info.landmarks}`);
    } else {
      alert('Information not available');
    }
  }

  document.querySelectorAll('area').forEach(area => {
    area.addEventListener('click', function() {
      const continentId = this.id;
      displayContinentInfo(continentId);
    });
  });

  const discoverLocationButton =
document.getElementById('discoverLocation');

  discoverLocationButton.addEventListener('click', () => {
    if ("geolocation" in navigator) {
      navigator.geolocation.getCurrentPosition((position) => {
        const latitude = position.coords.latitude;
        const longitude = position.coords.longitude;
        const continentId = determineContinentByGeo(latitude,
longitude);
        displayContinentInfo(continentId);
      }, (error) => {
        alert("Error obtaining geolocation: " + error.message);
      });
    } else {
      alert("Geolocation is not supported by your browser.");
    }
  });

  function determineContinentByGeo(latitude, longitude) {
    if (latitude > 35 && longitude > -10 && longitude < 40) {
```

```
      return 'europe';
    } else if (latitude < 0 && longitude > -80 && longitude < -34) {
      return 'south-america';
    } else if (latitude > 0 && longitude > -130 && longitude < -70) {
      return 'north-america';
    } else if (latitude > 5 && latitude < 60 && longitude > 40 &&
longitude < 180) {
      return 'asia';
    } else if (latitude > -35 && latitude < 35 && longitude > 10 &&
longitude < 50) {
      return 'africa';
    } else if (latitude < -10 && longitude > 110 && longitude < 180) {
      return 'australia-and-oceania';
    }
    alert("Continent could not be determined based on your location.");
    return null; // Fallback for locations not covered
  }
});

</script>
```





5. Supplementary Activity

TASK

Supplementary Activity:

Build a **Static Reference Table** at the bottom of the page that stays visible at all times.

Step 1: Create the Table Structure

- Go to the bottom of your `<body>` tag.

- Create a `<table>` element.

- Give it a **border**.

Step 2: Add the Headers

- Inside the table, create a table row `<tr>` for the headings.

- Use `<th>` (Table Header) tags for these three columns: Continent Name, Area (sq km), Population (approx)

Step 3: Input the Data

- Create a new row `<tr>` for each of the 6 continents.

- Use `<td>` (Table Data) tags to fill in the cells.

- Use the data provided below:

Continent	Area (km²)	Population
Asia	44,579,000	4.6 Billion
Africa	30,370,000	1.3 Billion
North America	24,709,000	579 Million
South America	17,840,000	423 Million
Europe	10,180,000	746 Million
Australia/Oceania	8,600,000	43 Million

CODE

HTML

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>World MAP</title>
    <link rel="icon"
href="https://edube.org/uploads/media/default/0001/04/web-favicon.png"
type="image/png">

    <script src="script.js"></script>
    <style>
        body {
```

```
        background-color: #eaf4ff;
        font-family: Arial, sans-serif;
        text-align: center;
        margin: 0;
        padding: 20px;
    }

    h1 {
        color: #1f3a5f;
    }

    p {
        color: #2c4a6b;
        font-size: 16px;
    }

    button {
        background-color: #4da3ff;
        color: white;
        border: none;
        padding: 10px 18px;
        font-size: 16px;
        border-radius: 8px;
        cursor: pointer;
        margin-bottom: 20px;
    }

    button:hover {
        background-color: #2f89e6;
    }

    img {
        display: block;
        margin: 0 auto;
        max-width: 100%;
        border-radius: 10px;
    }

    .continent-table {
        width: 70%;
        border-collapse: collapse;
        background-color: #d6eaff;
        border-radius: 12px;
        overflow: hidden;
        margin: 40px auto;
        text-align: center;
    }

    .continent-table th,
    .continent-table td {
```

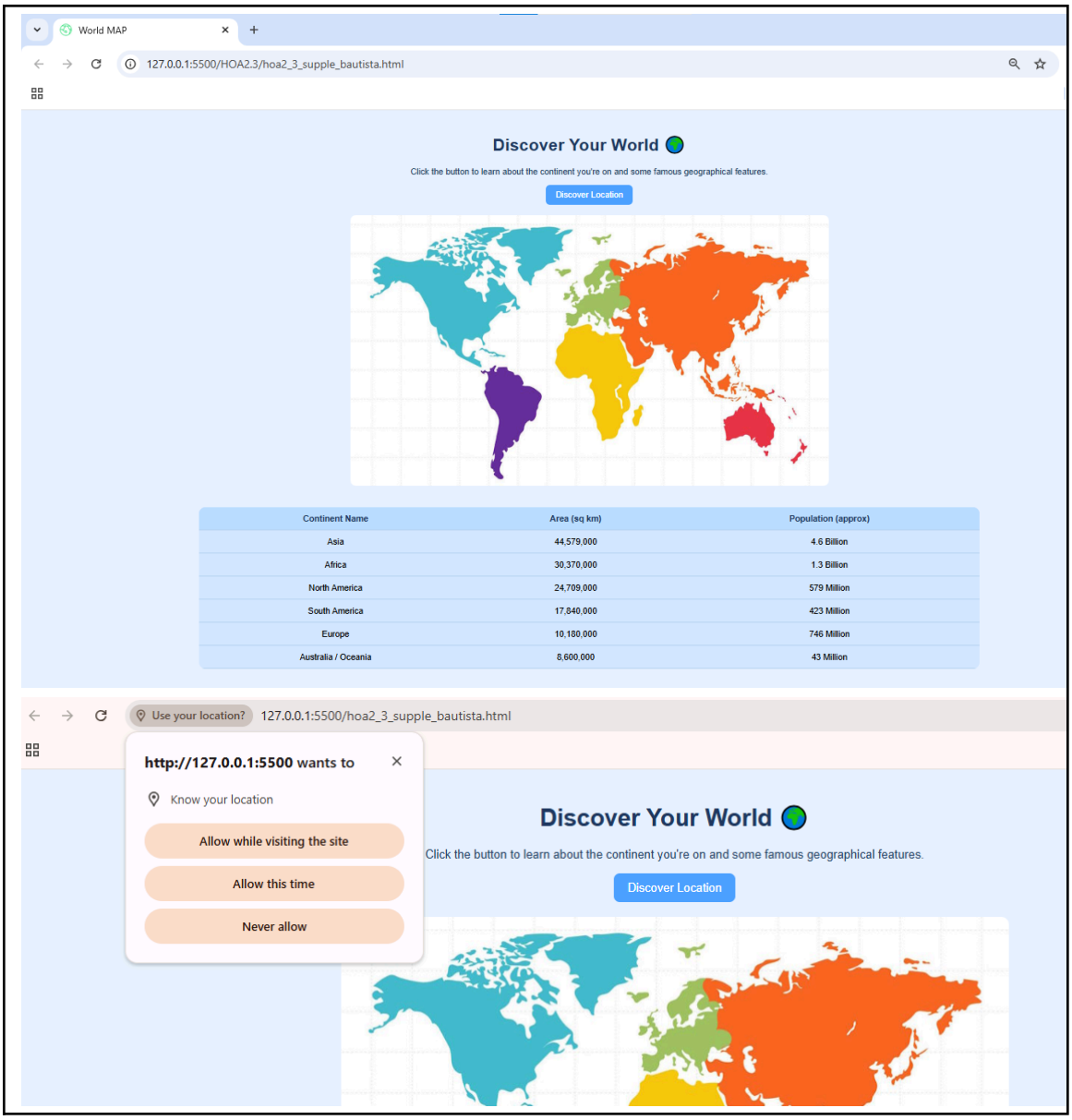
```
            padding: 12px;
            border-bottom: 1px solid #b5d6f2;
            text-align: center;
        }

        .continent-table th {
            background-color: #bcdcff;
            color: #1f3a5f;
            font-weight: bold;
        }

    </style>
</head>
<body>
        <h1>Discover Your World &#x1F30D</h1>
    <p>Click the button to learn about the continent you're on and some
famous geographical features. </p>

    <button id="discoverLocation">Discover Location</button>

    <img
src="https://edube.org/uploads/media/default/0001/04/continents.jpg"
usemap="#image-map" alt="World Map">
    <map name="image-map">

        <area target="" alt="North America" title="North America"
id="north-america" coords="386,283,41,17" shape="rect"
href="javascript:void(0);">
        <area target="" alt="South America" title="South America"
id="south-america" coords="209,501,358,288" shape="rect"
href="javascript:void(0);">
        <area target="" alt="Europe" title="Europe" id="europe"
coords="391,68,505,217" shape="rect" href="javascript:void(0);">
        <area target="" alt="Africa" title="Africa" id="africa"
coords="533,217,387,448" shape="rect" href="javascript:void(0);">
        <area target="" alt="Asia" title="Asia" id="asia"
coords="893,153,506,1" shape="rect" href="javascript:void(0);">
        <area target="" alt="Australia and Oceania" title="Australia and
Oceania" id="australia-and-oceania" coords="679,353,872,480"
shape="rect" href="javascript:void(0);">
    </map>

    <table class="continent-table">
        <tr>
            <th>Continent Name</th>
            <th>Area (sq km)</th>
            <th>Population (approx)</th>
        </tr>

        <tr>
```

```
            <td>Asia</td>
            <td>44,579,000</td>
            <td>4.6 Billion</td>
        </tr>

        <tr>
            <td>Africa</td>
            <td>30,370,000</td>
            <td>1.3 Billion</td>
        </tr>

        <tr>
            <td>North America</td>
            <td>24,709,000</td>
            <td>579 Million</td>
        </tr>

        <tr>
            <td>South America</td>
            <td>17,840,000</td>
            <td>423 Million</td>
        </tr>

        <tr>
            <td>Europe</td>
            <td>10,180,000</td>
            <td>746 Million</td>
        </tr>

        <tr>
            <td>Australia / Oceania</td>
            <td>8,600,000</td>
            <td>43 Million</td>
        </tr>
    </table>


</body>
</html>


<!-- JavaScript code provided by your teammate -->

<script>
document.addEventListener('DOMContentLoaded', function() {
  const continentInfo = {
    'north-america': {
      continent: 'North America',
      river: 'Mississippi River',
      mountain: 'Denali',
```

```
      landmarks: 'Grand Canyon, Statue of Liberty, Niagara Falls'
    },
    'south-america': {
      continent: 'South America',
      river: 'Amazon River',
      mountain: 'Aconcagua',
      landmarks: 'Machu Picchu, Galapagos Islands'
    },
    'europe': {
      continent: 'Europe',
      river: 'Danube River',
      mountain: 'Mont Blanc',
      landmarks: 'Eiffel Tower, Colosseum, Acropolis of Athens'
    },
    'africa': {
      continent: 'Africa',
      river: 'Nile River',
      mountain: 'Mount Kilimanjaro',
      landmarks: 'Sphinx, Table Mountain'
    },
    'asia': {
      continent: 'Asia',
      river: 'Yangtze River',
      mountain: 'Mount Everest',
      landmarks: 'Great Wall of China, Petra'
    },
    'australia-and-oceania': {
      continent: 'Australia and Oceania',
      river: 'Murray River',
      mountain: 'Mount Kosciuszko',
      landmarks: 'Sydney Opera House, Great Barrier Reef, Uluru'
    }
  };

  function displayContinentInfo(continentId) {
    const info = continentInfo[continentId];
    if (info) {
      alert(`Continent: ${info.continent}\nRiver:
${info.river}\nMountain: ${info.mountain}\nLandmarks:
${info.landmarks}`);
    } else {
      alert('Information not available');
    }
  }

  document.querySelectorAll('area').forEach(area => {
    area.addEventListener('click', function() {
      const continentId = this.id;
      displayContinentInfo(continentId);
    });
```

```
  });

  const discoverLocationButton =
document.getElementById('discoverLocation');

  discoverLocationButton.addEventListener('click', () => {
    if ("geolocation" in navigator) {
      navigator.geolocation.getCurrentPosition((position) => {
        const latitude = position.coords.latitude;
        const longitude = position.coords.longitude;
        const continentId = determineContinentByGeo(latitude,
longitude);
        displayContinentInfo(continentId);
      }, (error) => {
        alert("Error obtaining geolocation: " + error.message);
      });
    } else {
      alert("Geolocation is not supported by your browser.");
    }
  });

  function determineContinentByGeo(latitude, longitude) {
    if (latitude > 35 && longitude > -10 && longitude < 40) {
      return 'europe';
    } else if (latitude < 0 && longitude > -80 && longitude < -34) {
      return 'south-america';
    } else if (latitude > 0 && longitude > -130 && longitude < -70) {
      return 'north-america';
    } else if (latitude > 5 && latitude < 60 && longitude > 40 &&
longitude < 180) {
      return 'asia';
    } else if (latitude > -35 && latitude < 35 && longitude > 10 &&
longitude < 50) {
      return 'africa';
    } else if (latitude < -10 && longitude > 110 && longitude < 180) {
      return 'australia-and-oceania';
    }
    alert("Continent could not be determined based on your location.");
    return null; // Fallback for locations not covered
  }
});

</script>
```

OUTPUT


World MAP
127.0.0.1:5500/HOA2.3/hoa2_3_supple_bautista.html
Discover Your World
Click the button to learn about the continent you're on and some famous geographical features.
Discover Location
Continent Name
Area (sq km)
Population (approx)
Asia
44,579,000
4.6 Billion
Africa
30,370,000
1.3 Billion
North America
24,709,000
579 Million
South America
17,840,000
423 Million
Europe
10,180,000
746 Million
Australia / Oceania
8,600,000
43 Million
Use your location?
127.0.0.1:5500/hoa2_3_supple_bautista.html
http://127.0.0.1:5500 wants to
Know your location
Allow while visiting the site
Allow this time
Never allow
Discover Your World
Click the button to learn about the continent you're on and some famous geographical features.
Discover Location

Conclusion

After performing this activity I was able to learn more about the different advanced features that HTML has mainly in its media. This activity helped me learn how to put up icons and emojis onto the website in order to implement more design choices. Also there is the usage of iframes and notifications which promotes interactivity towards the users. After learning these advanced tags, I was able to implement this in a simple world map website which utilizes geolocation elements and notifications to create an interactive experience for the user. There is also a small portion of javascript which is mainly for handling the different animations and conditions in the user activity.