HTML Practice Problems

1 Basics

As shown in the following figure, design a simple website. Your code should be present in two files basic.html and styles.css.

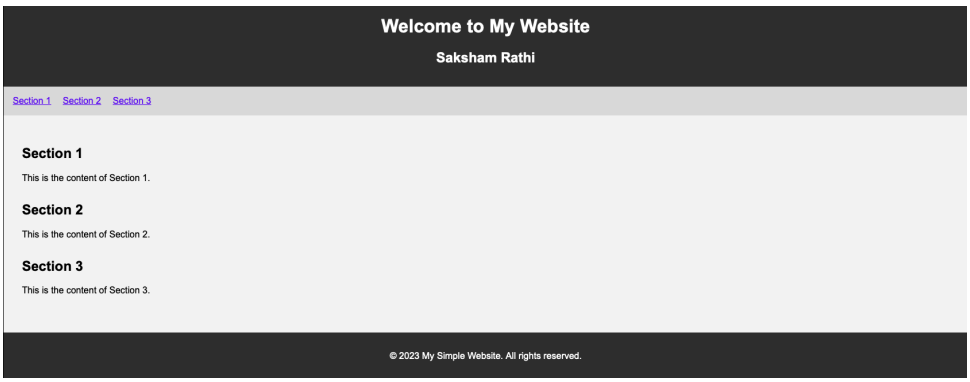

Figure 1: Basic Website

Please take care of the following points: (No need to design an exact same website!)

- The first and last headings are h1 and h2 respectively.
- The second is a navigation bar. (Use tag $< nav >$), these should be links which when clicked point to the respective sections. You can make use of ids to do this.
- Then again use $< h2 >$ and $< p >$ tags to write the remaining material.
- Use $< footer >$ tag to write the "rights reserved" message.

2 Popup Website

In this exercise, you are supposed to design a website which will contain a button, which on clicked will show a popup message from the top. You can add more features using your creativity. Your code should be present in a single file popup.html. A simple look is as shown below:

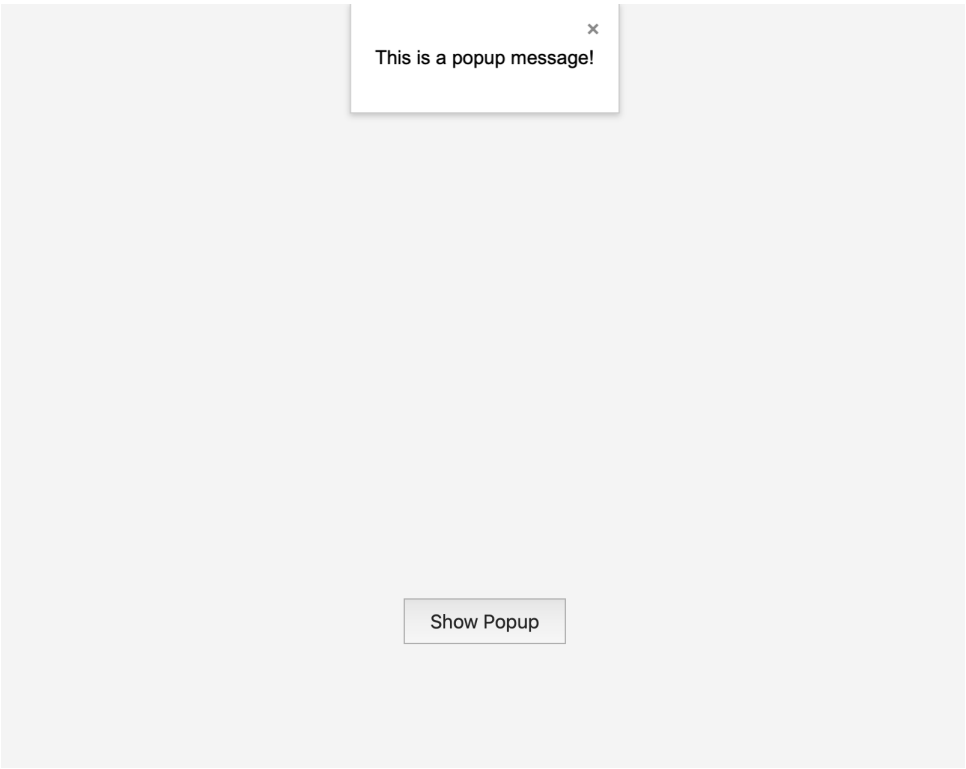

Figure 2: Popup Website

When we click the button "Show Popup", a popup appears from the top.

3 Let's do some math

Design a website using html and javascript, that involves taking input from the number and performing some calculations on it. Let $\sigma(n)$ denote the sum of divisors of a number. For example, $\sigma(12) = 1 + 2 + 3 + 4 + 6 + 12 = 28$. Your task is to calculate the sum $\sum_{i=1}^{n} \sigma(i)$, where n will be taken as user input. (You can do this in $O(n)$ time, think about it. Another challenge will be to do this in $O(\sqrt{n})$ time complexity.) Your code should be present in two files math.html and math.js.

A basic look is as below:

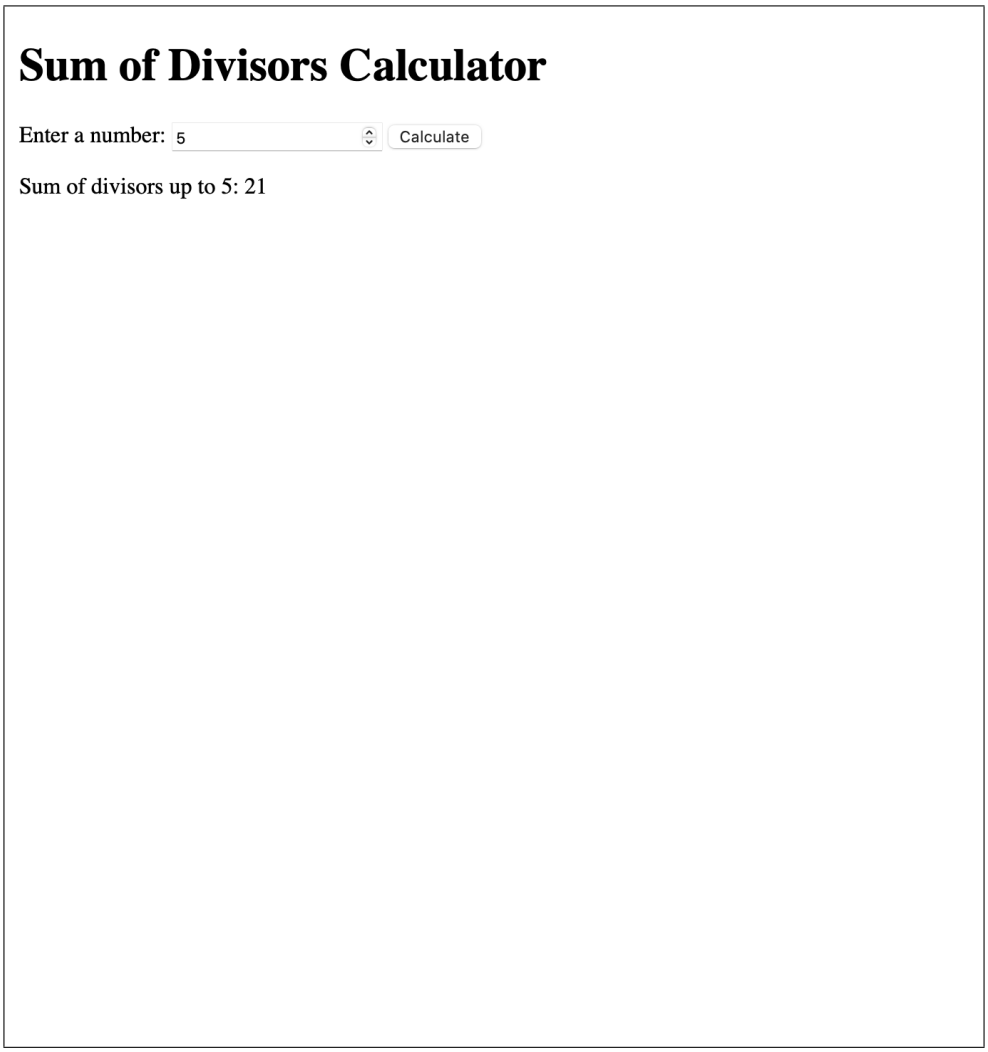

Figure 3: Math Website

(Explanation: $\sum_{i=1}^{5} \sigma(i) = \sigma(1) + \sigma(2) + \sigma(3) + \sigma(4) + \sigma(5) = 1 + 1 + 2 + 1 + 3 + 1 + 2 + 4 + 1 + 5 = 1 + 3 + 4 + 7 + 6 = 21$)