

CSE 154 sample midterm 1

1. HTML / CSS Tracing

Draw a picture of how the following HTML/CSS code will look when the browser renders it on-screen. Assume that the HTML is wrapped in a valid full page with a head and body. Indicate a non-white background by shading lightly or by drawing diagonal lines like *this*.

a)

```
<div id="foo">
  <div id="bar">kkk</div>
  <div class="baz">mmm</div>
  <div class="baz">ooo</div>
</div>
```

```
div div {
  margin: 40px;
  background-color: yellow;
}
div { padding: 20px; }
#foo { border: black 2px dashed; }
```

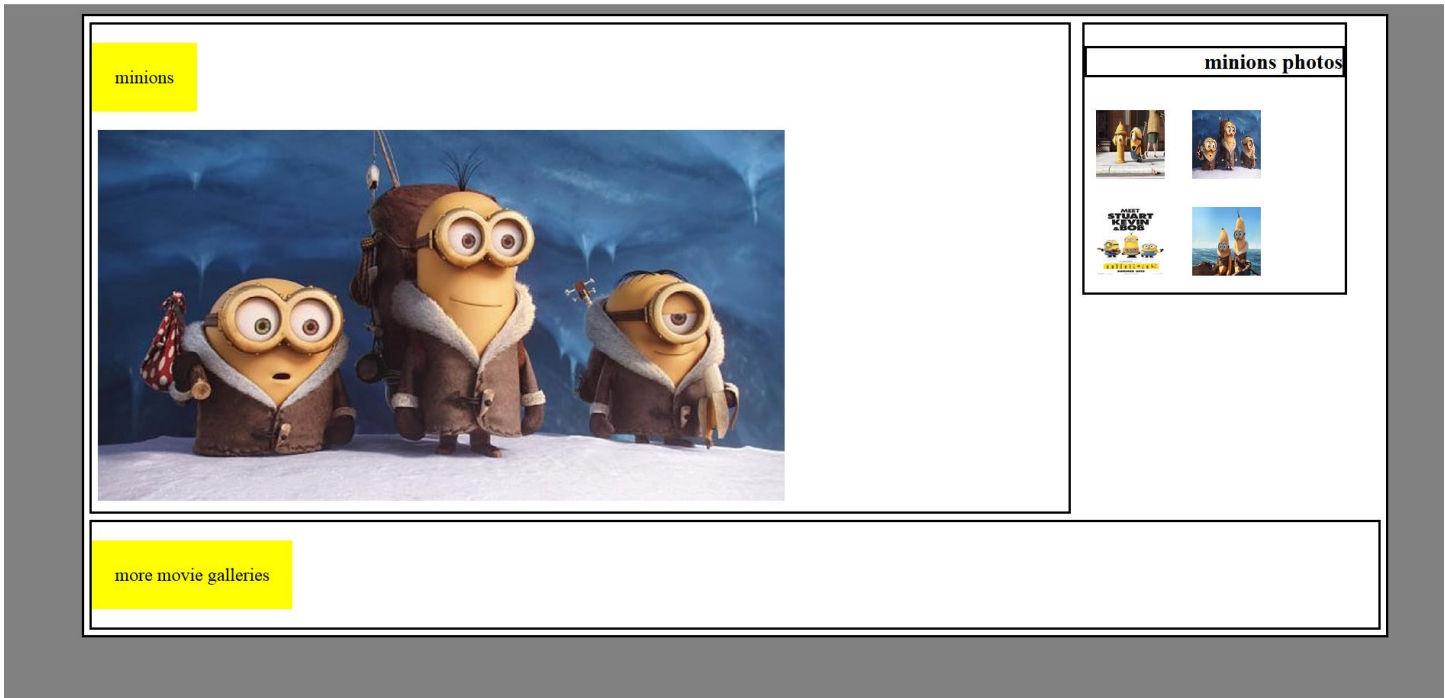
b)

```
<div id="foo">
  <div id="bar">kkk</div>
  <div class="baz">mmm</div>
  <div class="baz">ooo</div>
  <div class="bar">hhh
    <div>ddd</div>
  </div>
  <div id="cat">^..^</div>
</div>
```

```
.baz { float: right; }
.bar { float: left; }
div { border: black solid 2px; }
#foo > div { background-color: red; }
#cat { clear: both; }
```

2. HTML/CSS

Write the **CSS code** necessary to recreate the following appearance on-screen, exactly as shown. The page uses the HTML code below. You are **not allowed to modify the HTML**.



```
<body>
  <div id="contentArea">
    <div id="bigPic">
      <p>minions</p>
      <div>
        
      </div>
    </div>
    <div id="gallery">
      <h3>minions photos</h3>
      
      
      
      
    </div>
    <div id="more">
      <p>more movie galleries</p>
    </div>
  </div>
</body>
```

All borders shown are 2px thick, solid and black in color.

The elements that contain “minions” and “more movie galleries” have yellow backgrounds and 20px of space between the words and the edge of the background color.

There is 5px empty space around the outside of each div.

The small pictures are 60px wide and 60px tall and have 10px space around them. They should appear on the same line unless the line is full.

The div with the big picture and “minions” title is 75% of the width. The one with the small photos is 20%.

The background color of the page is gray but the background color of the area containing everything is white. The white area is 90% wide and centered.

3. JavaScript / DOM

Write the **JavaScript code** to add behavior to the following page for finding palindromes. A *palindrome* is a word that is spelled the same forward as backward, such as "madam" or "Anna". The page UI allows the user to type a phrase into a text box. The user can click a "Find Palindromes" button to find palindrome words in that phrase. Match case-insensitively; for example, "rotOR" is a palindrome. You may assume that words in the phrase are separated by single spaces and contain only letters. A one-letter word such as "I" is defined to be a palindrome.

Each palindrome found should be inserted as a bullet into a list with the `id` of `palindromes`. Every other palindrome (the first, third, fifth, etc.) should be given a gray background color of `#CC0000`. Underneath the list of palindromes you should display text such as "5 total palindrome(s)" in the `div` with `id` of `count`.

The user can optionally specify a minimum and maximum word length by typing integer values into two text boxes with `id` of `min` and `max` respectively. If a minimum is specified, you should include only palindrome words that contain at least that many letters inclusive. If a maximum is specified, you should include only palindrome words that contain at most that many letters inclusive. If the `min` or `max` is left blank, the length is unbounded in that direction. For example, a minimum of 3 and a blank maximum finds all palindromes of at least 3 letters. You may assume that the text typed in these boxes will either be blank or a valid non-negative integer, and that `max` will be \geq `min`.

The code should work for multiple clicks of the button. On each click it should clear any previous found information.

```
<h1> Palindrome Finder! </h1>
<div> Phrase: <input id="phrase" type="text" size="70" /> </div>
<div> Length: <input id="min" type="text" size="2" /> to
               <input id="max" type="text" size="2" /> </div>
<div> <button id="find"> Find Palindromes </button> </div>
<ul id="palindromes"></ul>
<div id="count"></div>
```

These screenshots show the initial state, and after phrases have been typed and "Find Palindromes" is clicked.

Palindrome Finder!

Phrase:

Length: to

Palindrome Finder!

Phrase:

Length: to

- I
- did
- a

3 total palindrome(s).

Palindrome Finder!

Phrase:

Length: to

- Madam
- sTats
- SexEs
- CIVIC
- raceCar

5 total palindrome(s).

Palindrome Finder!

Phrase:

Length: to

- Madam
- I
- did
- sTats
- SexEs
- a
- CIVIC
- raceCar

8 total palindrome(s).

Palindrome Finder!

Phrase:

Length: to

- Madam
- did
- sTats
- SexEs
- CIVIC

5 total palindrome(s).