Lab: Objects and DOM

Problems for in-class lab for the "JavaScript Advanced" course @ SoftUni. Submit your solutions in the SoftUni judge system at https://judge.softuni.bg/Contests/1801/Lab-DOM

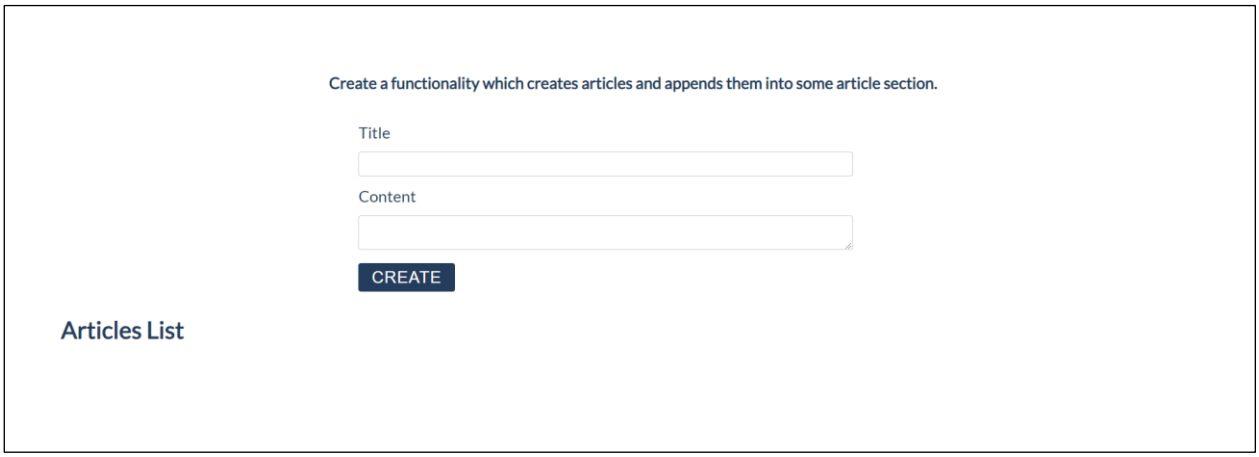
1. Articles List

In this problem, you should create a JS functionality which creates articles and appends them into some article section.

The programs in this language are called **scripts**. They can be written right in the HTML and **executed automatically** as the page loads.

Scripts are provided and executed as a **plain text**. They don't need a special preparation or a compilation to run.

In this aspect, JavaScript is very **different** from another language called Java.



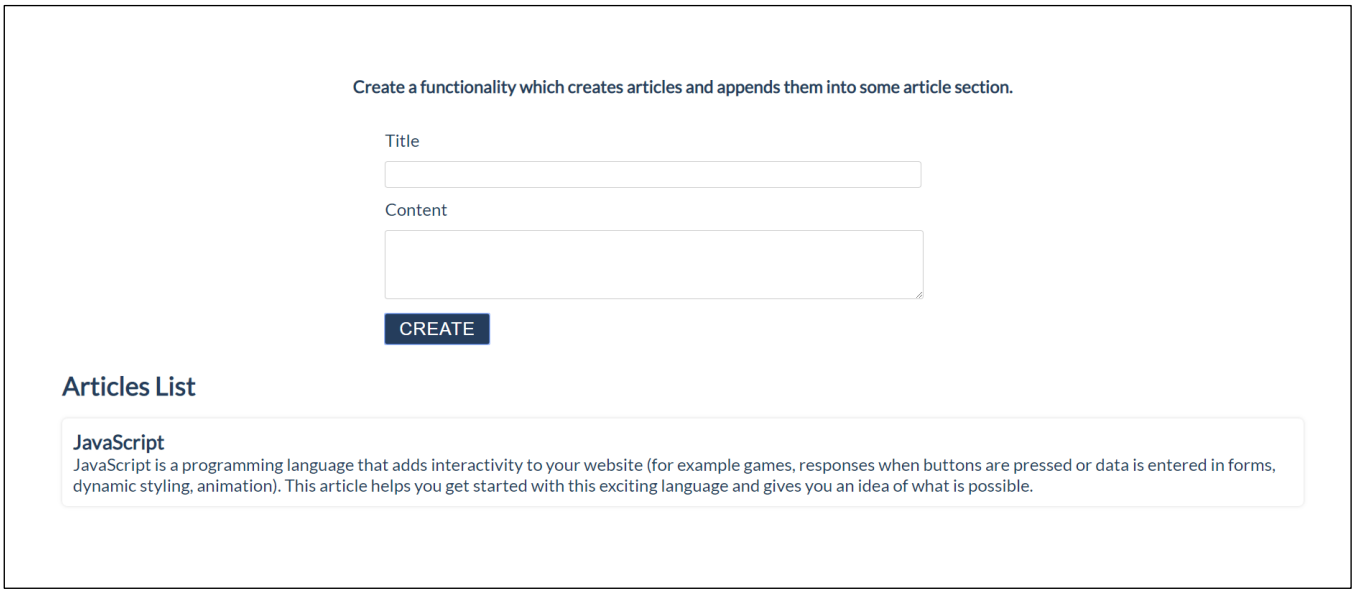
Constraints:

- **Title value** from the **title input** should be a **heading 3 element <h3>**
- **Content text** from the **textarea element** should be a **paragraph <p>**
- Both new created elements (**h3** and **p**) should be appended to a new **article element <article>**
- **The current article element** should be **appended** to the section which has an id articles (**#articles**)
- You should create new **article element** only if **title** and **content are not empty**
- After the button is pressed you must **clear** the **title value** and **text value**

```
<div id="createArticle">
   <label for="createTitle">Title</label>
   <input id="createTitle">
   <br>
   <label for="createContent">Content</label>
   <textarea id="createContent"></textarea>
   <button onclick="createArticle()">Create</button>
 </div>
<section id="articles">
   <h1>Articles List</h1>
 </section>
```

Input:

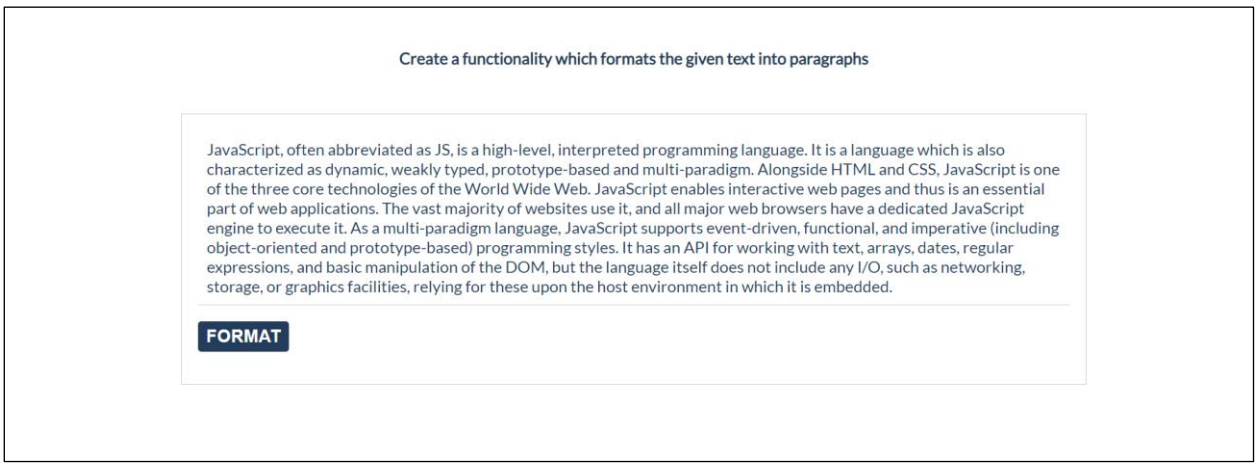
Output:



```
<section id="articles">
  <h1>Articles List</h1>
  <article>
    <h3>JavaScript</h3>
    <p>
      "JavaScript is a programming language that adds
      interactivity to your website (for example games, responses
      when buttons are pressed or data is entered in forms,
      dynamic styling, animation). This article helps you get
      started with this exciting language and gives you an idea
      of what is possible."
    </p>
  </article>
</section>
```

2. Format the Text

In this problem, you should **create a JS functionality** which **formats the given text into paragraphs.**



```
<body>
  <h4>
      Create a functionality which formats the given text into paragraphs
  </h4>
  <div id="exercise">
    <p id="input">
      "JavaScript, often abbreviated as JS, is a high-level, interpreted programming language. It is a
            language which is also characterized as dynamic, weakly typed, prototype-based and multi-paradigm. Alongside
            HTML and CSS, JavaScript is one of the three core technologies of the World Wide Web. JavaScript enables
            interactive web pages and thus is an essential part of web applications. The vast majority of websites use it,
            and all major web browsers have a dedicated JavaScript engine to execute it. As a multi-paradigm language,
            JavaScript supports event-driven, functional, and imperative (including object-oriented and prototype-based)
            programming styles. It has an API for working with text, arrays, dates, regular expressions, and basic
            manipulation of the DOM, but the language itself does not include any I/O, such as networking, storage, or
            graphics facilities, relying for these upon the host environment in which it is embedded."
    </p>
    <button onclick="solve()" type="button" id="formatItBtn">Format</button>
    <div id="output"></div>
  </div>
</body>
```

When the [**Format**] button is **clicked**, you need to **format the text inside** the **paragraph** with an **id** "**input**". The formatting is **done** as **follows:**

- You need to **create a new paragraph element which holds no more than 3 sentences from the given input.**
- If the given input contains **less** or **3 sentences**, you need to create only 1 paragraph, fill it with these sentences and append this paragraph to the div with an **id** "**output**".

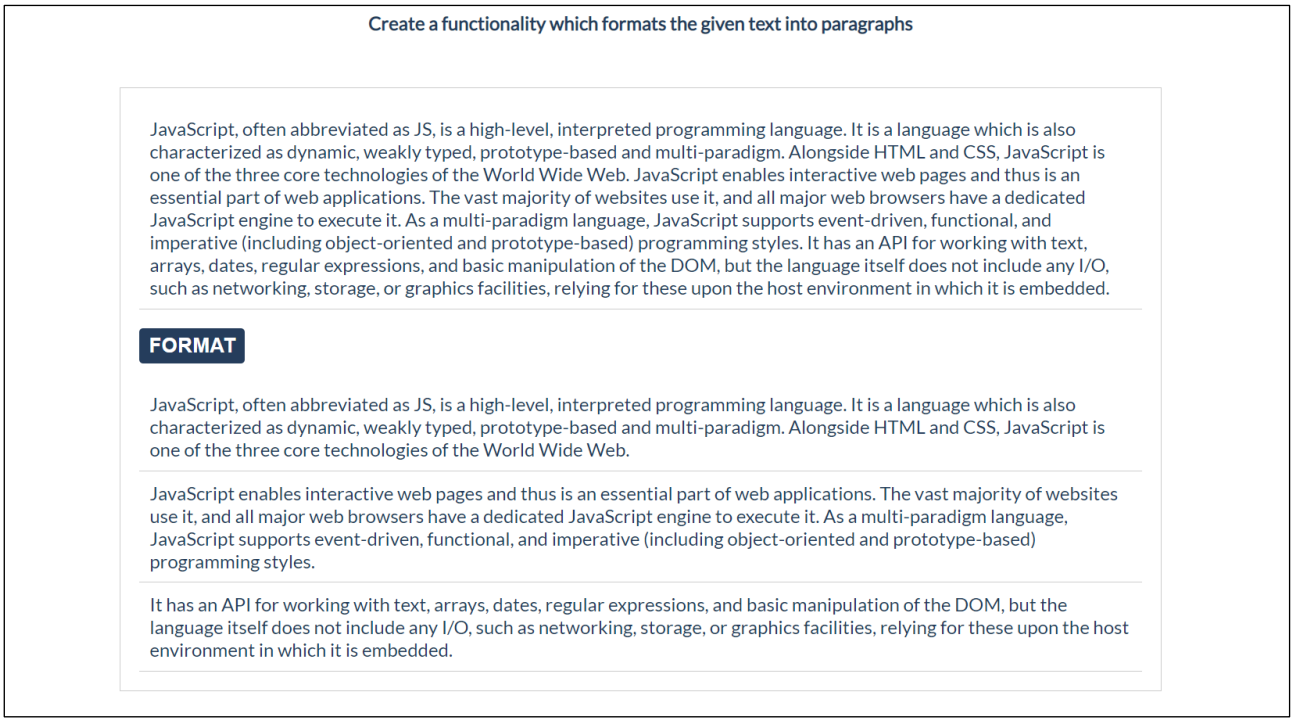
Otherwise, when you have more than 3 sentences in that **input paragraph,** you need to create enough paragraphs to get all sentences from the **input text.**

Just remember to **restrict** the **sentences** in **each paragraph to 3.**

Example:

- If the input paragraph **contains 2 sentences**, you need to create only **1 paragraph** with these 2 sentences
- If the input paragraph **contains 7 sentences,** you need to create **3 paragraphs**
  - The **first paragraph** must contain **the first 3 sentences**
  - The **second paragraph** must contain **the other three sentences of the whole text**
  - The **third paragraph** will contain **only the last sentence**, because there are no more sentences in this paragraph

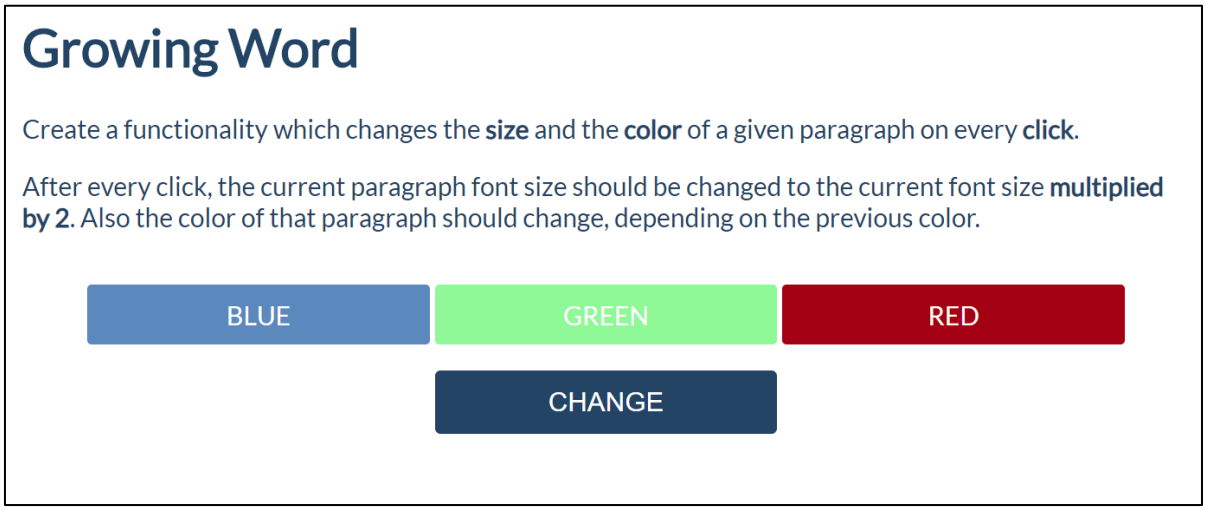
To find out how many sentences there are in the text, simply split the whole text by '.' Also, every sentence must have at least 1 character.




```
<div id="output">
  <p>
    "JavaScript, often abbreviated as JS, is a high-level, interpreted programming language. It is a
          language which is also characterized as dynamic, weakly typed, prototype-based and multi-paradigm. Alongside
          HTML and CSS, JavaScript is one of the three core technologies of the World Wide Web."
  </p>
  <p>
    " JavaScript enables
          interactive web pages and thus is an essential part of web applications. The vast majority of websites use it,
          and all major web browsers have a dedicated JavaScript engine to execute it. As a multi-paradigm language,
          JavaScript supports event-driven, functional, and imperative (including object-oriented and prototype-based)
          programming styles."
  </p>
  <p>
    " It has an API for working with text, arrays, dates, regular expressions, and basic
          manipulation of the DOM, but the language itself does not include any I/O, such as networking, storage, or
          graphics facilities, relying for these upon the host environment in which it is embedded."
  </p>
</div>
```

3. Growing Word

In this problem, you should **create a JS functionality** which **changes the size and the color** of a given **paragraph** on **every click**.



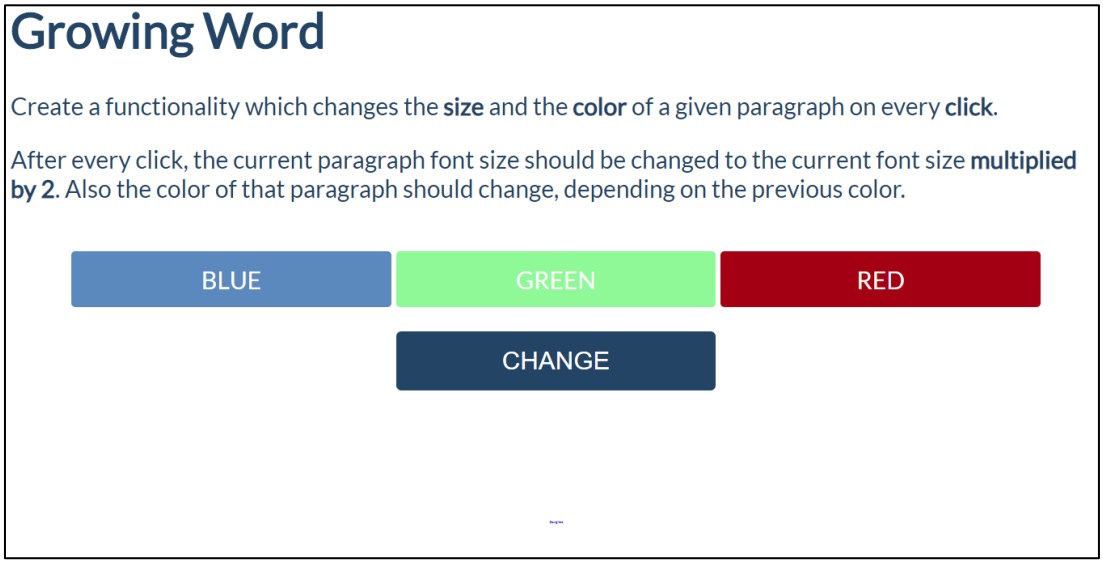
```
<div id="exercise">
  <div id="colors">
    <div id="blueDiv">Blue</div>
    <div id="greenDiv">Green</div>
    <div id="redDiv">Red</div>
  </div>
  <div>
    <button type="button" onclick="growingWord()">CHANGE</button>
  </div>
  <p>Growing Word</p>
</div>
```

Every time when we **click** on the [**CHANGE**] button, **the color** and **the size** of **the paragraph** which contains "**`Growing Word`**" **should change!**

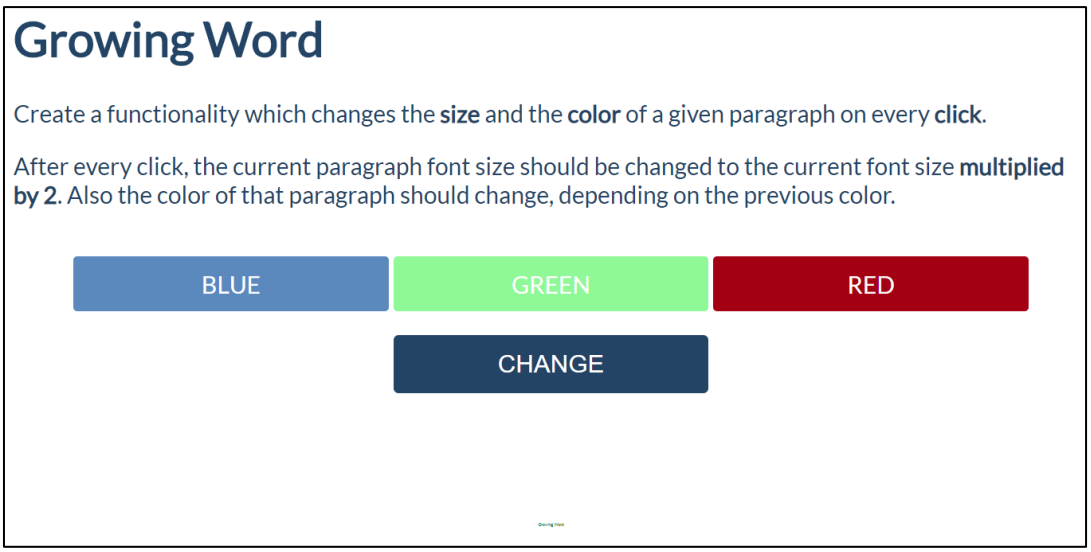
After every click, the current paragraph ***font size*** should be **changed** to the **current font size multiplied by 2.** Also, **the color** of that paragraph should change, depending on the **previous color**.

Example:

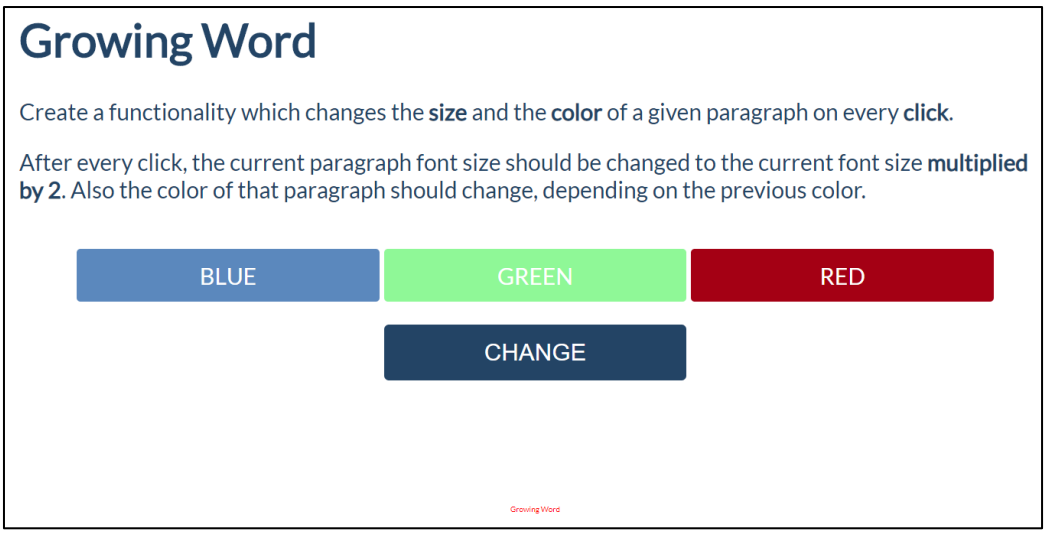
- If we click **once**, the color should be changed to **`blue`** and the font size should be **2** (First initial size)
- If we click **twice,** the color should be changed to **`green`** and the font size should be **4** (2 * 2)
- If we click **three times**, the current color of that paragraph should be changed to **`red`** and the font size should be **8** (4 * 2)
- If our paragraph already has a **red color, on** the **next** click, the color should turn to **blue**. Just loop throw these three colors (blue, green, red) again and again and again... while you are clicking on that button.




```
<div id="exercise">
  <div id="colors">…</div>
  <div>…</div>
  <p style="color: blue; font-size: 2px;">Growing Word</p>
</div>
```



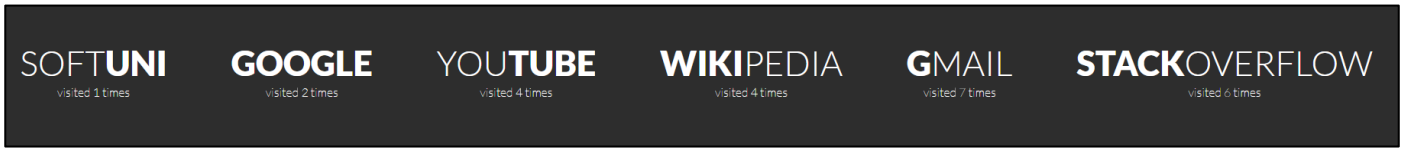

```
<div id="exercise">
  <div id="colors">…</div>
  <div>…</div>
    <p style="color: green; font-size: 4px;">Growing Word</p>
</div>
```




```
<div id="exercise">
  <div id="colors">…</div>
  <div>…</div>
    <p style="color: red; font-size: 8px;">Growing Word</p>
</div>
```

4. Visited Sites

In this problem, you should **create a JS functionality** that keeps track of how many times a specific site has been **visited**.



For instance, if we click **twice on the Gmail link and 5 times on the YouTube link**, the expected result must be: