# DOM and Events - Exercises

Problems for in-class lab for the ["JS Front-End" course @ SoftUni](https://softuni.bg/trainings/3976/js-front-end-february-2023). Submit your solutions in the SoftUni judge system at <https://judge.softuni.org/Contests/3795/DOM-and-Events-Exercises>

**Environment Specifics**

Please, be aware that every JS environment may **behave differently** when executing code. Certain things that work in the browser are not supported in **Node.js**, which is the environment used by **Judge**.

The following actions are **NOT** supported:

* **.forEach()** with **NodeList** (returned by **querySelector()** and **querySelectorAll()**)
* **.forEach()** with **HTMLCollection** (returned by **getElementsByClassName()** and **element.children**)
* Using the **spread-operator** (**...**) to convert a **NodeList** into an array
* **append()** in Judge (use only **appendChild()**)
* **prepend()**
* **replaceWith()**
* **replaceAll()**
* **closest()**
* **replaceChildren()**
* Always turn the collection into a **JS array** (forEach, forOf, et.)

If you want to perform these operations, you may use **Array.from()** to first convert the collection into an array.

## Subtraction

An HTML page holds **two text fields** with ids "**firstNumber**" and "**secondNumber**". Write a function to **subtract** the values from these text fields and display the result in the **div** named "**result**".

### HTML and JavaScript Code

Implement the aboveto provide the following functionality:

* Your function should take the values of "**firstNumber**" and "**secondNumber**", **convert** them to numbers, **subtract** the first number from the second one and then append the result to the **<div>** with **id="result"**.
* Your function should be able to work with **any 2 numbers** in the inputs, not only the ones given in the example.

### Example

A picture containing graphical user interface

Description automatically generated

### Hints

We see that the **textboxes** and the **div** have **id** attributes on them.  
Graphical user interface, text, application

Description automatically generated

We can take the numbers directly from the input field by using the **getElementById()** function. After we have taken the elements from the DOM, it’s time to do the actual work. We get the values of the two **textboxes**,as one would expect, the type is **text**. To get a **number**, we need to use a function to **parse** **them**.

A screenshot of a computer

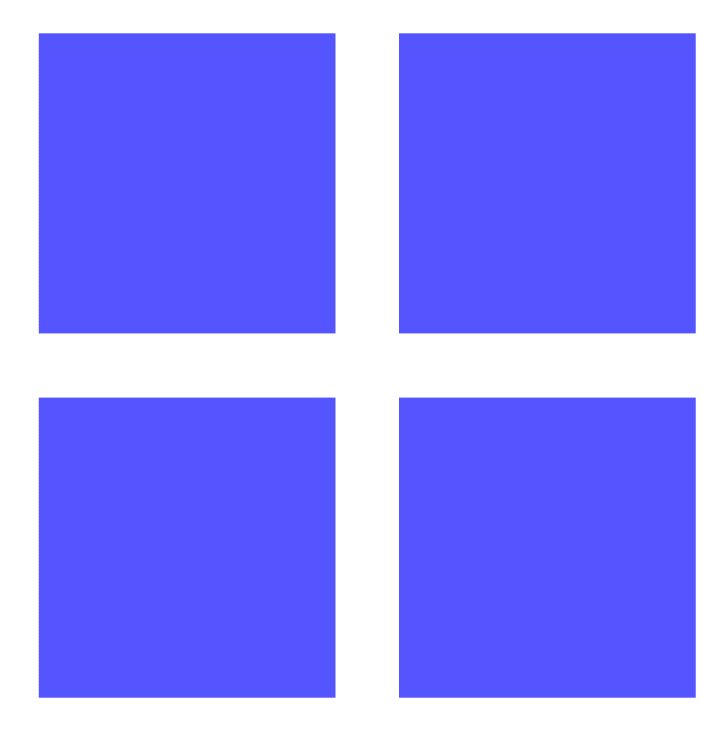
Description automatically generated with low confidence

All that’s left for you to do is append the result to the **div**.

## Sections

You will receive an **array** of strings. For each string, create a **div** with a **paragraph** with the **string** in it. Each paragraph is initially **hidden (display:none)**. Add a **click** **event** **listener** to **each div** that **displays** the **hidden** paragraph. Finally, you should **append** all divs to the element with an **id** "**content**".

### Example

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## Accordion

An **HTML** file is given and your task is to show **more**/**less** information. By clicking the **[More] button**, it should **reveal** the content of a **hidden** div and **changes** the text of the button to **[Less]**. When the same link is clicked **again** (now reading **Less**), **hide** the div and **change** the text of the link to **More**. Link action should be **toggleable** (you should be able to click the button an infinite amount of times).

### Example



Graphical user interface, text, application

Description automatically generated

### Hints

* To **change** the text content of a button, you could use **getElementsByClassName**. However, that returns a **collection** and we need only **one** element from it, so the correct way is to **use** **getElementsByClassName("button")[0]** as it will return the needed span element.
* After that, we should change the **display style** of the div with an **id** "**extra**". If the display style is "**none**", we should **change** it to "**block**" and the **opposite**.
* Along with all of this, we should **change** the text content of the **button** to **[Less]**/[**More]**.

## Locked Profile

In this problem, you should **create a JS functionality** that **shows** and **hides** the additional information about users.

Graphical user interface, application

Description automatically generated

When one of the [**Show more**] **buttons** is clicked, the **hidden information** inside the div should

be shown, only if **the profile is not locked**! If the current profile is **locked,** nothing should happen.

Graphical user interface, application

Description automatically generated

If the **hidden information is displayed** and we **lock** **the profile again**, the [**Hide it**] button should **not be working**!

Otherwise, when the profile is **unlocked** and we click on the [**Hide it**] button, the new fields must hide again.

## Fill Dropdown

Your task is to take values from **input** fields with **ids "newItemText"** and **"newItemValue"**.Then you should create and append an **<option>** to the **<select>** with **id** **"menu".** In the end you should **clear both input fields**!

### Example

Text, icon

Description automatically generated with medium confidence

### Hints

* Your function should take the values of **newItemText** and **newItemValue**. After that, you should create a new **option** element and set its **textContent** and its **value** to the newly taken ones.
* Once you have done all of that, you should **append** the newly created **option** as a **child** to the **select** item with id **"menu".**

## Table - Search Engine

Write a function that **searches** in a **table** by given input.

A screenshot of a computer

Description automatically generated with medium confidence

When the "**Search**" **button** is **clicked**, go through all cells in the table except for the first row (Student name, Student email, and Student course) and check if the given input has a match (check for both **full words** and **single letters**).

If any of the rows contain the submitted string, add a class select to that row. Note that more than one row may contain the given string.

Оtherwise, if there is no match, **nothing should happen**.

**Note:** After every search ("Search" button is clicked), **clear** **the input field** and **remove** **all already selected classes** (if any) from the previous search, for the **new search** to contain only the **new result**.

For instance, if we try to find **eva:**

Table

Description automatically generated with medium confidence

The result should be:

A screenshot of a computer

Description automatically generated with medium confidence

If we try to find all students who have email addresses in **softuni** domain, the expected result should be:

A screenshot of a computer

Description automatically generated

## Format the Text

**Create a functionality** that gets a text from **textarea**, formats the given **text** - you need 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**.

Graphical user interface, text

Description automatically generated

Generate HTML paragraphs as a string (Use interpolation **string** to create paragraph element: **`<p> {text} </p>`**) and append it to the div with an **id =** **"output"**.

Text

Description automatically generated

Text

Description automatically generated

When the [**Format**] button is **clicked**, get the text inside the **textarea** with an **id**="**input**" and **format it**. The formatting is **done** as **follows:**

* Create a **new paragraph element** that holds no more than **3 sentences** from the given input**.**
* **Hint: Use interpolation string to create paragraph element. (`<p> {text} </p>`)**
* 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**,** create enough paragraphs to get all sentences from the **textarea.**

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

### Example:

* If the input textarea **contains 2 sentences**, create only **1 paragraph** with these 2 sentences

Graphical user interface, website

Description automatically generated

* If the input textarea **contains 7 sentences,** 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**

Text

Description automatically generated

### Output

|  |  |
| --- | --- |
| **Input** | **Output** |
| 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. | <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.</p> |
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## Furniture

You will be given some furniture as an **array of objects**. Each object will have a name, a price, and a decoration factor.

When the [**"Generate"**] **button is clicked**, add a **new row to the table** for each piece of furniture with image**,** name**,** price, and decoration factor(code example below).

When the [**"**Buy**"**] button is clicked, get all **checkboxes that are marked** and show in the result textbox the **names** of the piece of furniture that **were checked**, separated by a **comma** and **single** **space** (**", "**) in the following format: **"Bought furniture: {furniture1}, {furniture2}…"**.

On the next line, print the total price in the format: **"Total price: {totalPrice}"** (formatted to the second decimal point). Finally, print the average decoration factor in the format: **"Average decoration factor: {decFactor}"**

### Input Example

**[{"name": "Sofa", "img": "https://res.cloudinary.com/maisonsdumonde/image/upload/q\_auto,f\_auto/w\_200/img/grey-3-seater-sofa-bed-200-13-0-175521\_9.jpg", "price": 150, "decFactor": 1.2}]**

### Examples

Graphical user interface

Description automatically generated