Exercise: DOM and Events

1. Subtraction

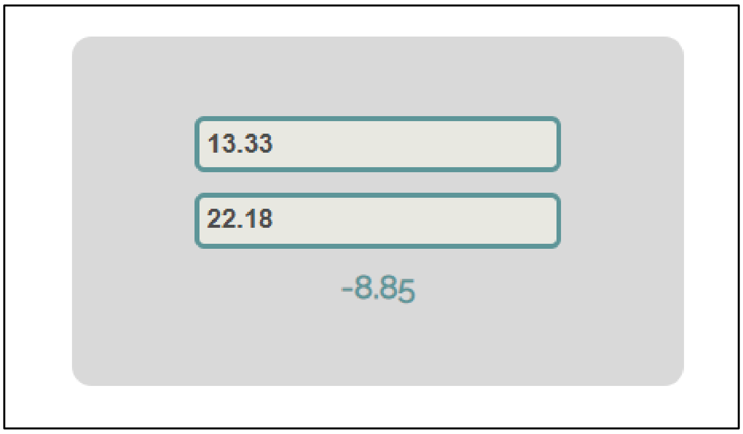
An HTML page holds **two text fields** with ids "**`firstNumber`**" and "**`secondNumber`**". Write a function that **subtracts** the values from these text fields and display the result in the **`div`** named "**`result`**".

HTML and JavaScript Code

Implement the above to provide the following functionality:

- Your function should take the values of "**`firstNumber`**" and "**`secondNumber`**", **convert** them to numbers, **subtract** the second number from the first 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



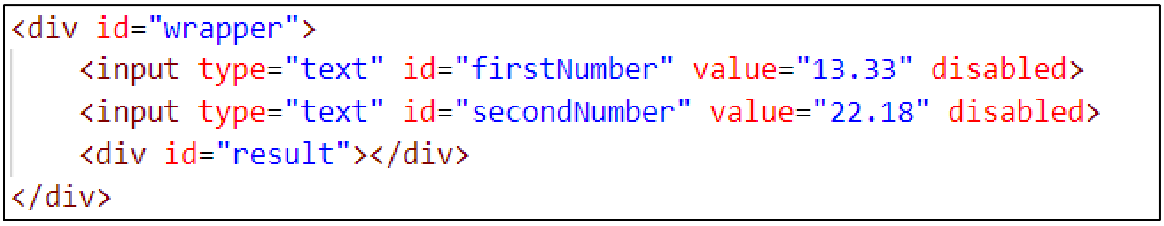
13.33

22.18

-8.85

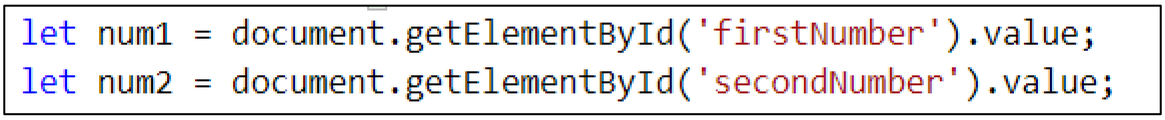
Hints

We see that the **textboxes** and the **`div`** have **`id`** attributes on them.



```
<div id="wrapper">
    <input type="text" id="firstNumber" value="13.33" disabled>
    <input type="text" id="secondNumber" value="22.18" disabled>
    <div id="result"></div>
</div>
```

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**.



```
let num1 = document.getElementById('firstNumber').value;
let num2 = document.getElementById('secondNumber').value;
```

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

2. Pascal or Camel Case

An **HTML** file is given and your task is to write a function that takes **two string parameters** as an input and transforms the **first parameter** to the type required by the **second parameter**.

- **The first parameter** will be the text that you need to modify depending on the second parameter. The words in it will **always** be **separated by space**.
- **The second parameter** will be either "**`Camel Case`**" or "**`Pascal Case`**". In case of different input, your **output** should be **"`Error!`"**

When the button is clicked, the function should convert the first string to either of the cases. The **output** should consist of only **one word** – the string you have modified. Once your **output** is done, you should set it as HTML to the **`<span>` element**. For more information, see the examples below:

Example

Input	Output
`"this is an example", "Camel Case"`	`thisIsAnExample`
`"secOND eXamPLE", "Pascal Case"`	`SecondExample`
`"Invalid Input", "Another Case"`	`Error!`

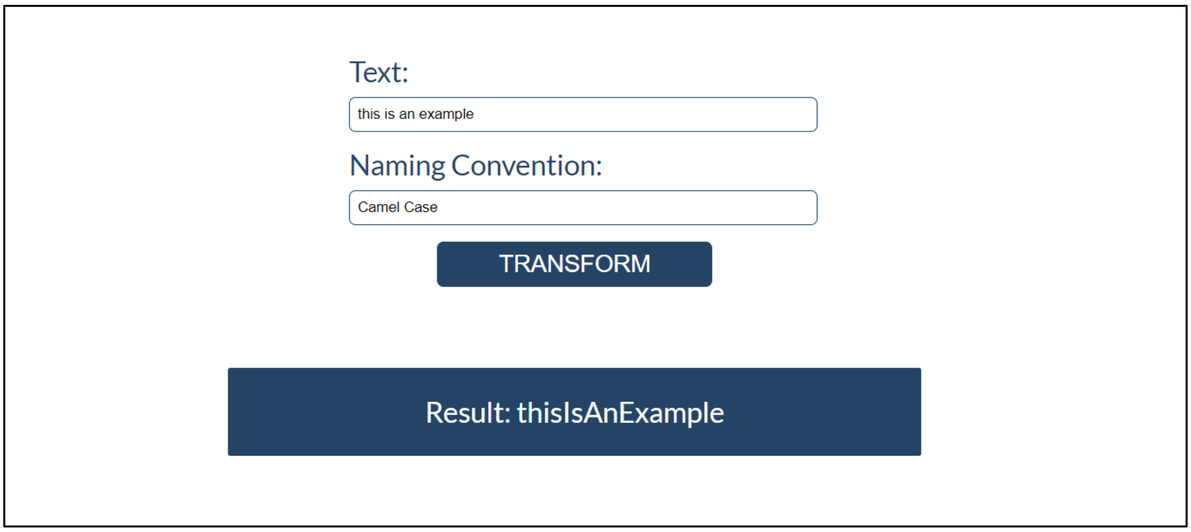
Hints

First, take the two values from the input fields:

```
let input = document.getElementById("text").value;
let currentCase = document.getElementById("naming-convention").value;
```

Then, write a function that generates the result:

- First, convert all the **letters to lowercase**.
- Depending on the command, make the input either **`Pascal Case`** or **`Camel Case`**.



Text:

this is an example

Naming Convention:

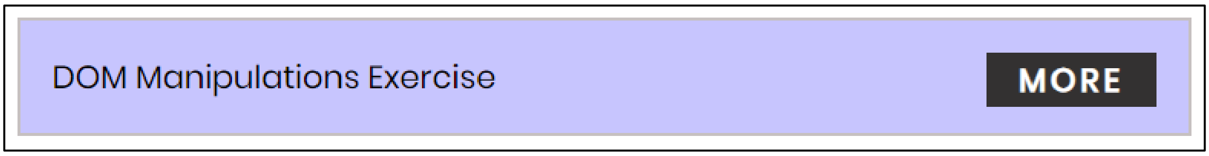
Camel Case

Result: thisIsAnExample

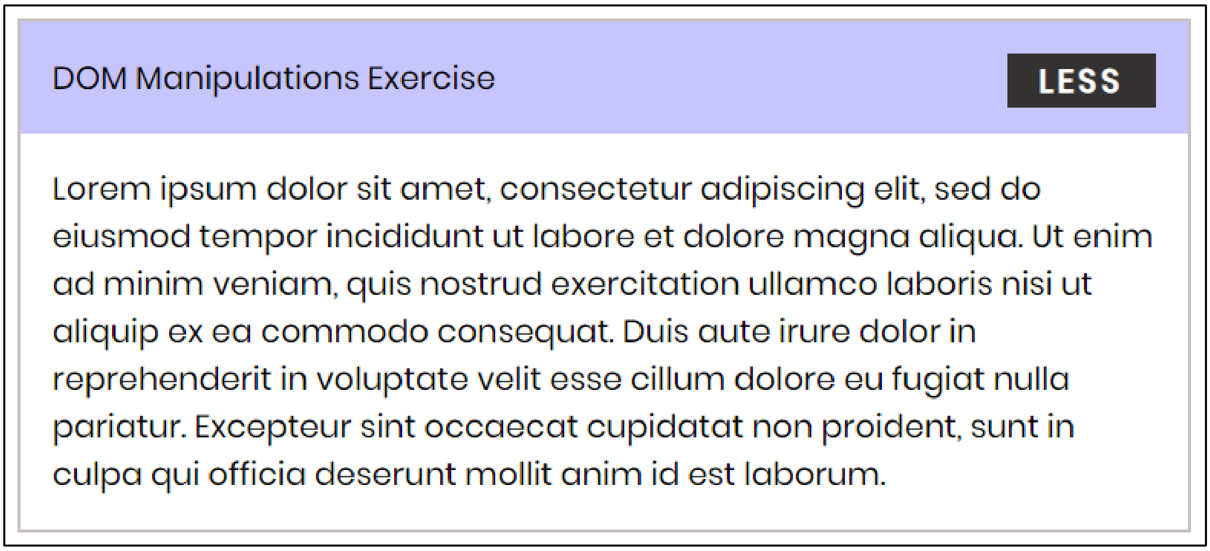
3. Accordion

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



DOM Manipulations Exercise



DOM Manipulations Exercise

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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]`.

4. Search in List

An HTML page holds a **list** of towns, a **search** box, and a `[Search]` button. Implement the **`search`** function to **bold** and **underline** the items from the list which include the text from the **search** box. Also, print the number of items the current search **matches** in the format `` `${matches} matches found` ``.

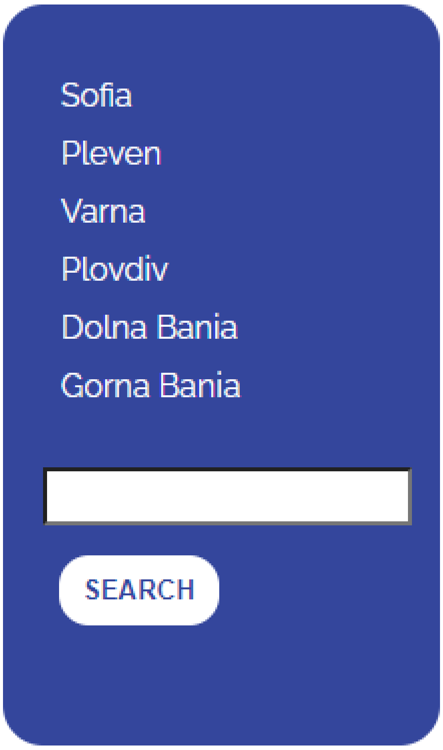
NOTE*:* It is necessary to clear the results of the previous search.

Write your **JavaScript** code in this file:

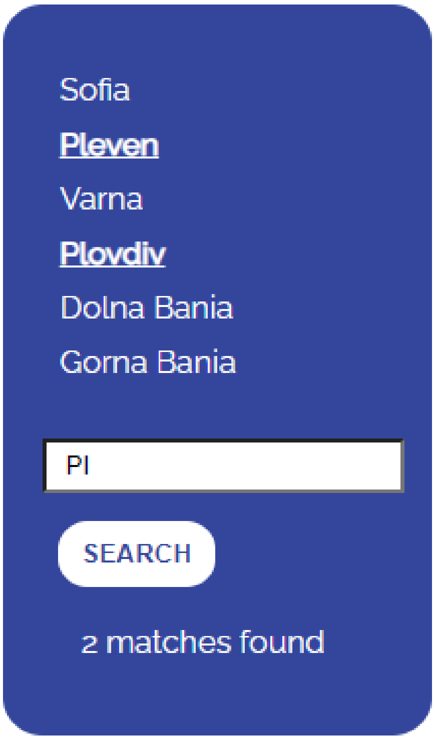
search.js

`function search() {`
`    // TODO`
`}`

Screenshots



Sofia
Pleven
Varna
Plovdiv
Dolna Bania
Gorna Bania



Sofia
Pleven
Varna
Plovdiv
Dolna Bania
Gorna Bania

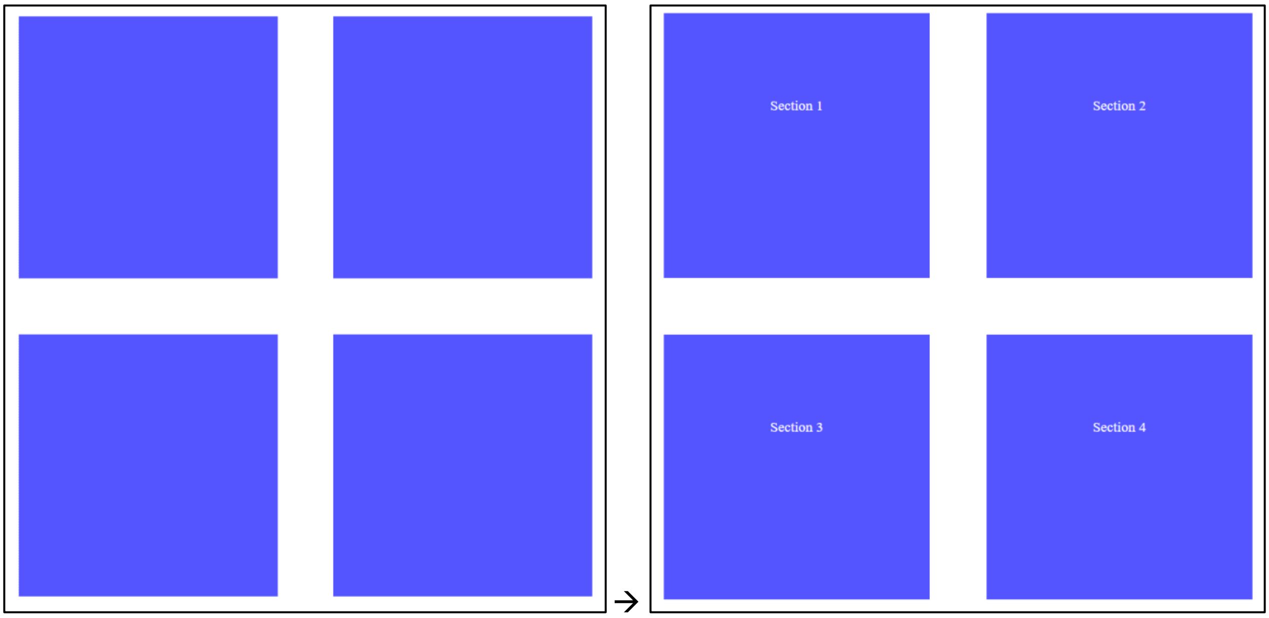
Pl

2 matches found

5. 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

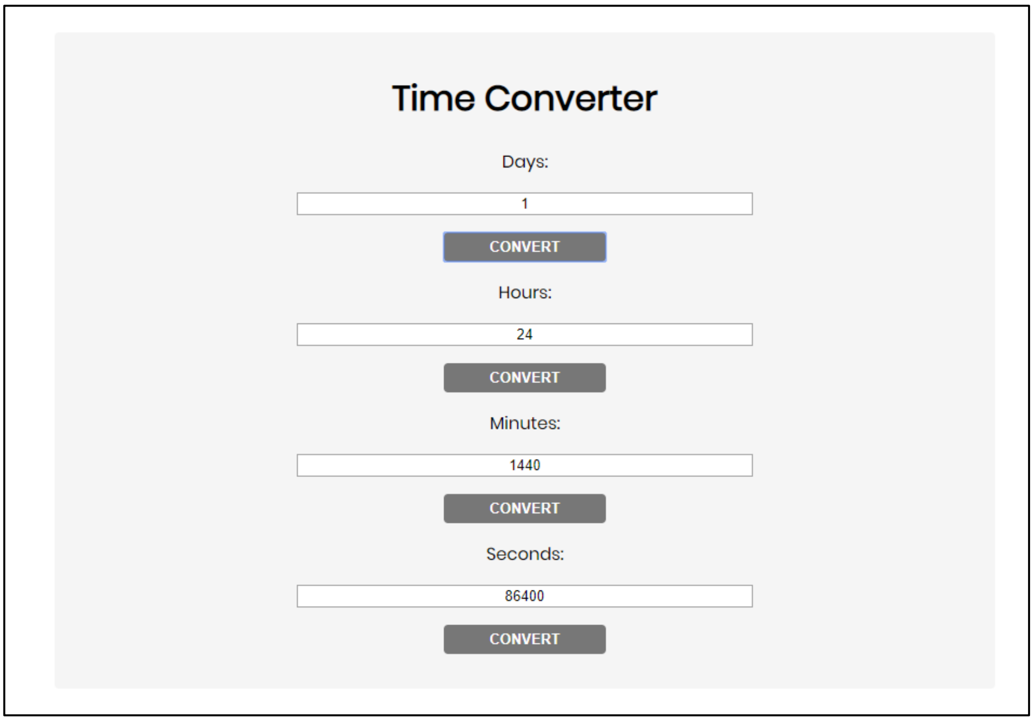


Section 1
Section 2
Section 3
Section 4

6. Time Converter

Create a program that **converts** different time units. Your task is to add a **click** event listener to **all** **`[CONVERT]`** **buttons**. When a button is **clicked**, read the **corresponding** input field, **convert** the value to the **three other** time units and **display** it in the input fields.

Example



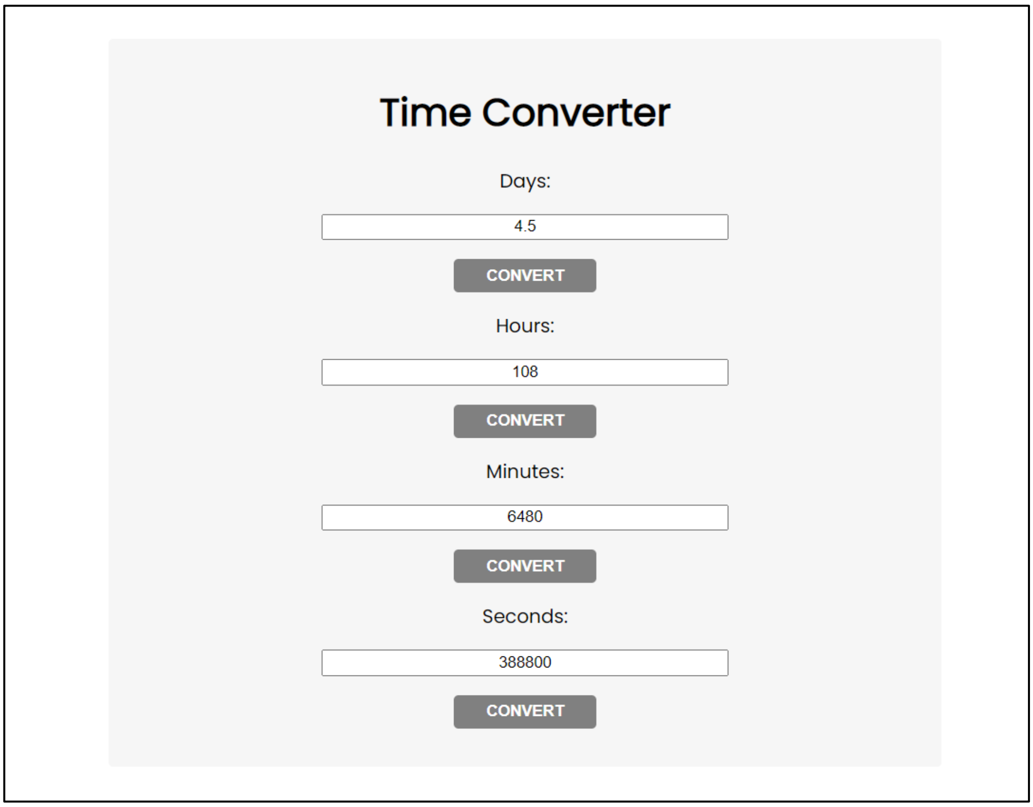
Time Converter

Days: 1

Hours: 24

Minutes: 1440

Seconds: 86400



Time Converter

Days: 4.5

Hours: 108

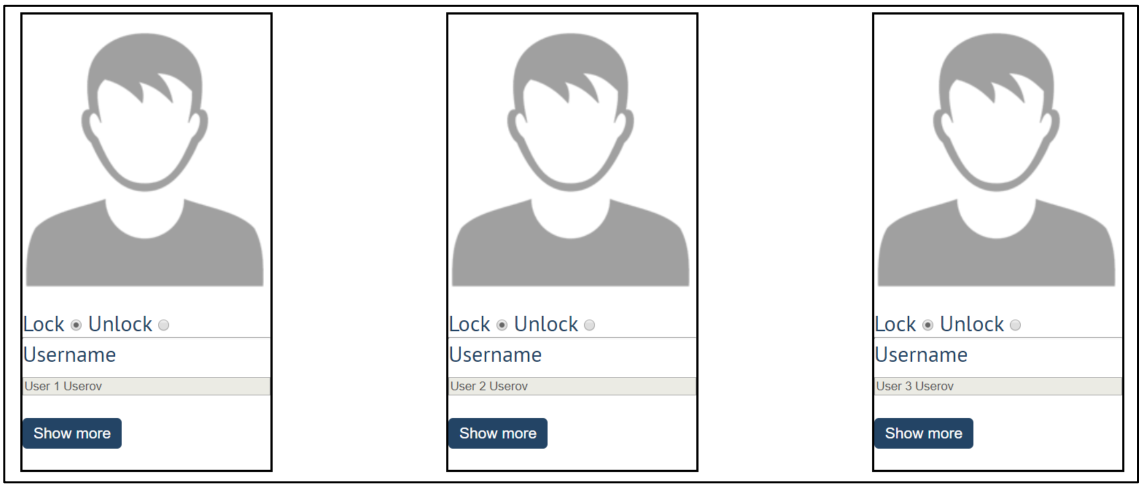
Minutes: 6480

Seconds: 388800

One day is equal to 24 hours/1440 minutes/86400 seconds. Whichever button we **click,** the **`input`** fields should **change** depending on the added value on the left. (For example, if we write 48 hours and click convert the days, the field value should change to 2).

7. Locked Profile

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

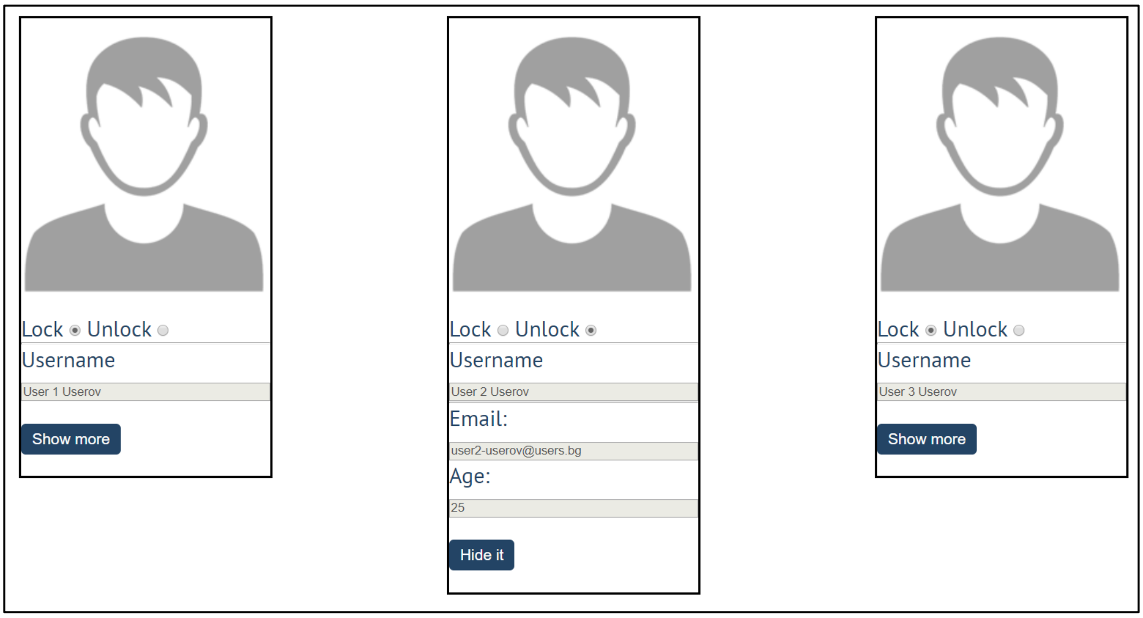


Lock ◉ Unlock ○
Username
User 1 Userov

Lock ◉ Unlock ○
Username
User 2 Userov

Lock ◉ Unlock ○
Username
User 3 Userov

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.



Lock ◉ Unlock ○
Username
User 1 Userov

Lock ○ Unlock ◉
Username
User 2 Userov
Email:
user2-userov@users.bg
Age:
25

Lock ◉ Unlock ○
Username
User 3 Userov

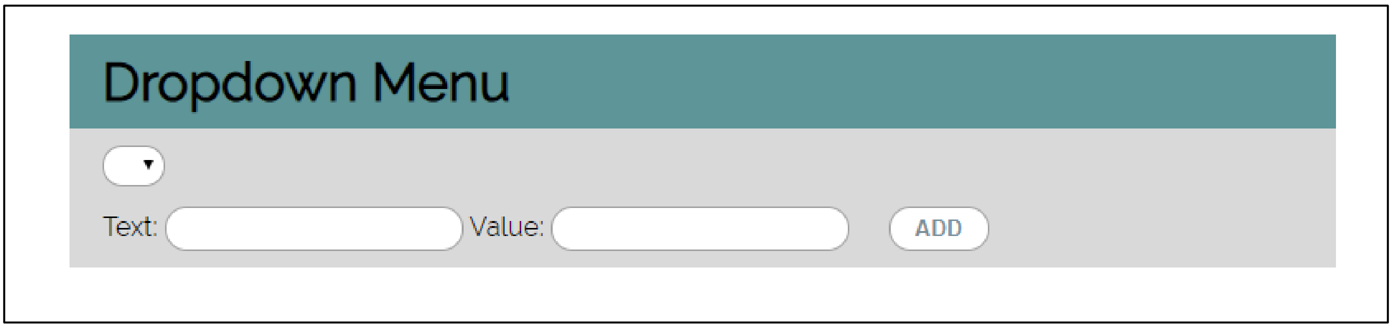
If the **hidden information is displayed** and we **lock the profile again**, the **`[Hide it]`** button should **not be working**!

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

8. 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"`.**

Example

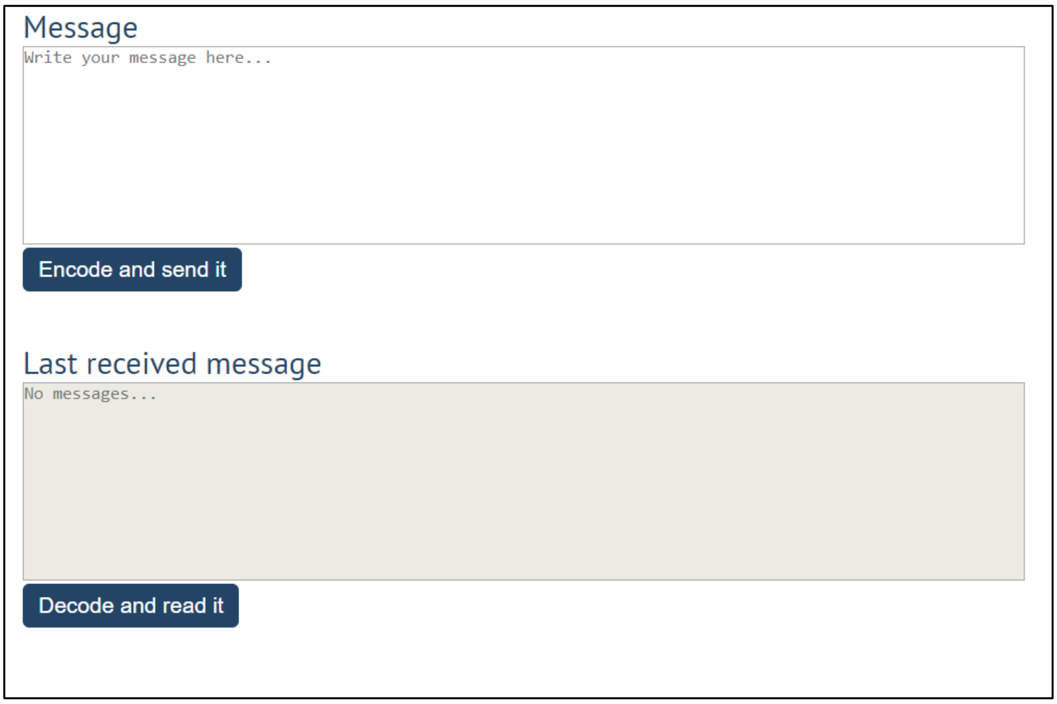


Hints

- 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`".**
- Finally, you should **clear** the value of the two **input** fields.

9. Encode and Decode Messages

In this problem, you should **create a JS functionality** that **encodes and decodes some messages which travel to the network.**



This program should contain **two functionalities**.

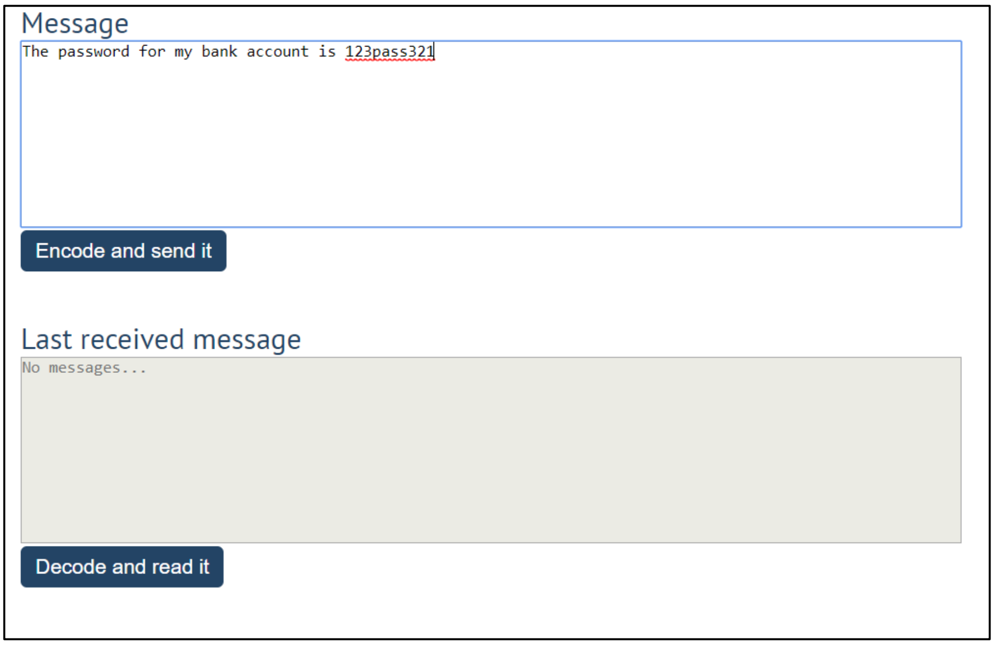
The first one is to **encode the given message** and **send it** to the **receiver**.

The second one is to **decode the received message** and **read it (display it)**.

When the **[`Encode and send it`] button** is clicked, you should get the given message from the first **`textarea`**. When you get the current message, you should encode it as follows:

- **Change** the **ASCII CODE** on **every single character** in that message when you **add 1** to the current **ASCII NUMBER**, that represents the current character in that message

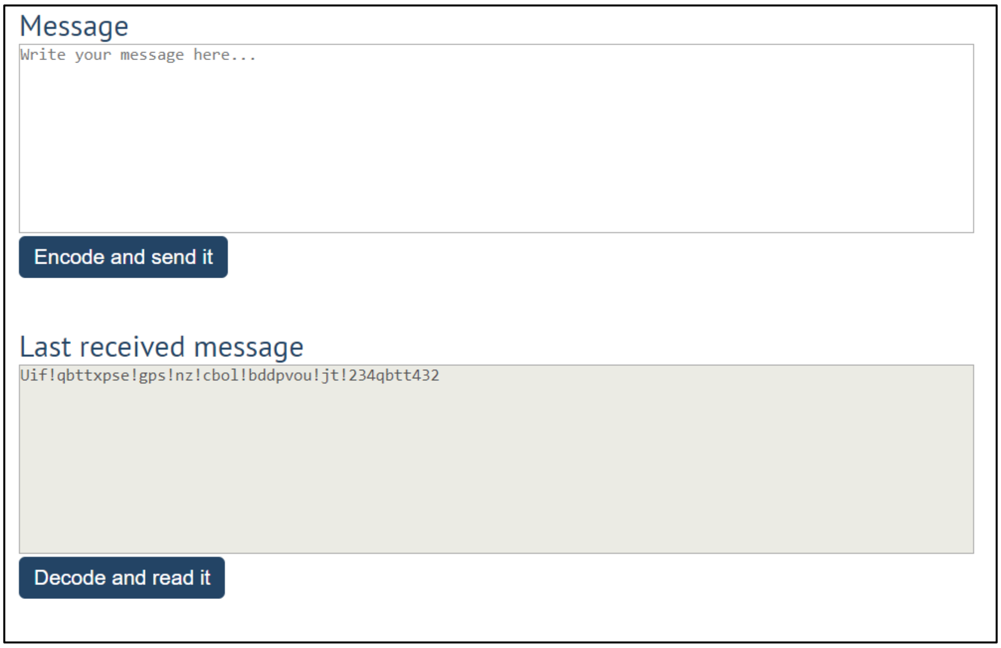
- **Clear** the **sender `textarea`** and **add** the encoded message to the **receiver `textarea`**



The password for my bank account is 123pass321

No messages...

After clicking the [**`Encode and send it`**] **button** the result should be:

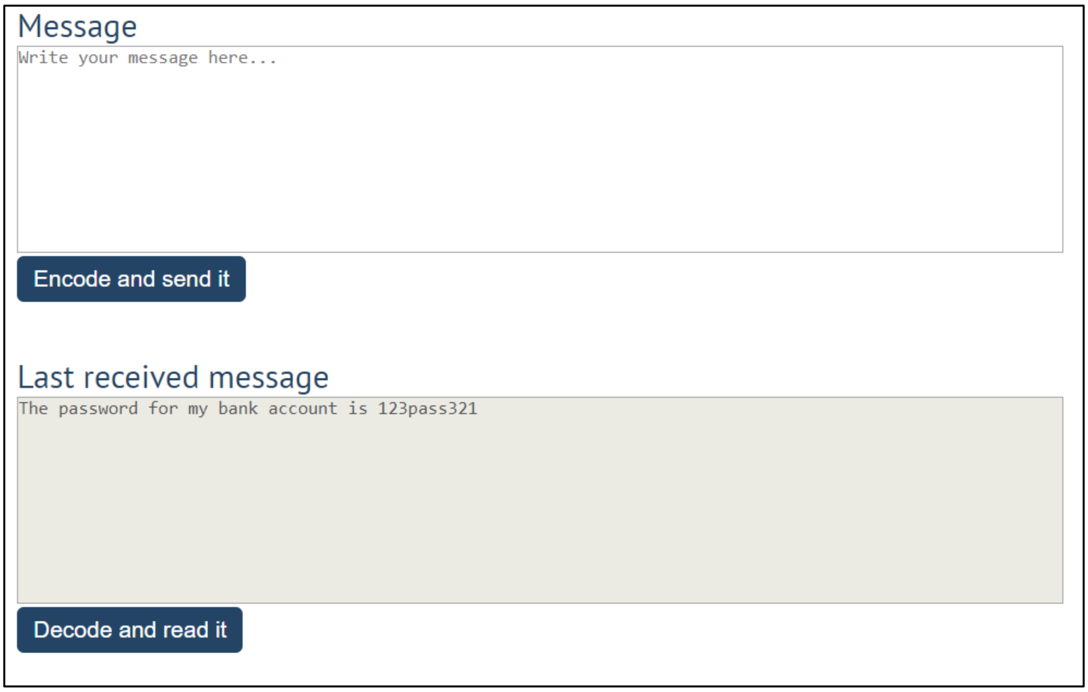


Write your message here...

Uif!qbttxpse!gps!nz!cbol!bddpvou!jt!234qbtt432

After that, when the **[`Decode and read it`] button** is clicked. You need to get the **encoded message** from **the receiver `textarea`** and do the **opposite logic** from encoding:

- **Subtract 1** from the current **ASCII NUMBER**, that represents the current character in that message
- Replace the **encoded message** with the already **decoded message** in the receiver **`textarea`**, to make it readable



The password for my bank account is 123pass321

10. 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).

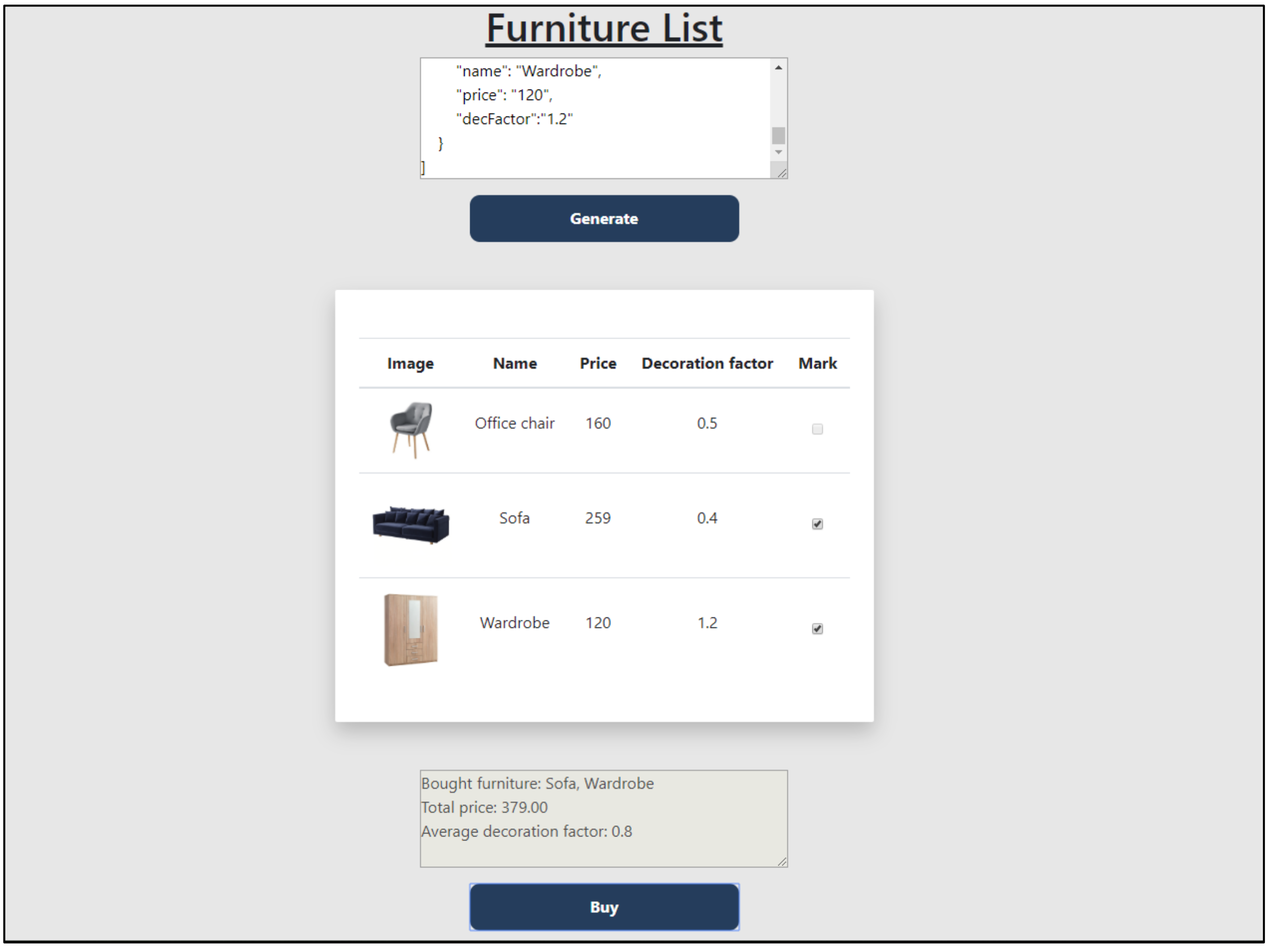
When the [Buy] button is clicked, get all **checkboxes that are marked** and show in the **result textbox** the **names** of the piece of furniture that **were checked**, separated by a **comma** and **single space** (**", "**) in the following format: **"Bought furniture: {furniture1}, {furniture2}…"**.

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



Furniture List

```
     "name": "Wardrobe",
     "price": "120",
     "decFactor":"1.2"
   }
]
```

Image	Name	Price	Decoration factor	Mark
	Office chair	160	0.5	□
	Sofa	259	0.4	☑
	Wardrobe	120	1.2	☑

```
Bought furniture: Sofa, Wardrobe
Total price: 379.00
Average decoration factor: 0.8
```