

Short comments to explain your code are marked

## Part A 15%

### Question 1 (3%):

Create an HTML page that has the following elements

- A centered large title 'Final Exam'
- Two paragraphs (Lorem paragraph) next to each other
- On smaller screen sizes when both paragraphs don't fit next to each other the second paragraph should be pushed down on a separate line.

### Question 2 (3%):

Using CSS

- Change the color of the first button to red when the user clicks
- Change the color of the second button to green when the user hovers over it
- Change the color of the button to blue when the user clicks on the button and it stays focused.

### Question 3 (3%):

Using JS DOM

- Change the color of the first button to red when the user clicks
- Change the color of the second button to green when the user hovers over it
- Change the color of the button to blue when the user clicks on the button and it stays focused.

### Question 4 (3%):

Have the function `get_max_profit(array_of_product_prices)` take the array of prices during a period of time and return the max profit that we can achieve during that period of time for that product. for example, let's assume that the prices for that product for a given week are [11, 12, 11, 10, 7, 13, 15] in chronological order (it's a discrete time series) the function `get_max_profit` should return 8 (buy the product the fourth day at 7 \$ sell it the last day of that week at 15 \$ so the profit we are making is 8 \$). We assume that we have to buy at most 1 unit of that product in a given period of time and sell it once.

To help you with the problem we wrote some unit tests for you :

```
assert get_max_profit([1, 2, 3, 4, 5, 6, 7, 8]) == 7
```

```
assert get_max_profit([15, 10, 9, 6, 4, 3, 1]) == 0 // Meaning we are not buying the product  
because the price keeps on going down
```

```
assert get_max_profit([15, 11, 12, 11, 10, 7, 13]) == 6
```

### Question 5 (3%):

Write a function that takes 2 array arguments and returns sorted items array ordered by the id.

id=[4,3,1,2] items=['apple', 'tomato', 'potato', 'cheese']

The item in the items array at index 0 has the id in the id array at index 0, the item at index n has the id at index n

Example:

sortItems([4,3,1,2],['apple', 'tomato', 'potato', 'cheese'])

Expected result: ['potato', 'cheese', 'tomato', 'apple']

Explanation

Sorted ID → items

1 → potato

2 → cheese

3 → tomato

4 → apple

## Part B 15%

### Question 1 (5%):

In the q1 folder inside partB folder, you will find an HTML and a CSS file.

You don't need to add new elements to the HTML file.

Tasks:

- You need to animate the yellow circle to move from the left side of the page to the right in a round path.
- The color of the circle should change when it moves from left to right.
- The color of the sky should change also

### Question 2 (5%):

In the q2 folder inside partB folder, you have an HTML and a js file

In the js file, there is a function named display, when the function is called a new list item is added to the unordered list.

Task:

- Make this function add a new list item only once even if it's called multiple times without adding any global variables.



**Question 3 (5%):**

In the q3 folder inside partB folder, you have an HTML and a js file

When the user clicks on the plus button the number in between the buttons should increment.

When the user clicks on the minus button the number in between the button should decrement.

You need to use DOM to add the functionality and you are only allowed 1 function to handle both increment and decrement events.