# QA Automation Exam

## General

The purpose of the task is to evaluate your Selenium and JAVA coding skills, Testing thinking and code architecture.

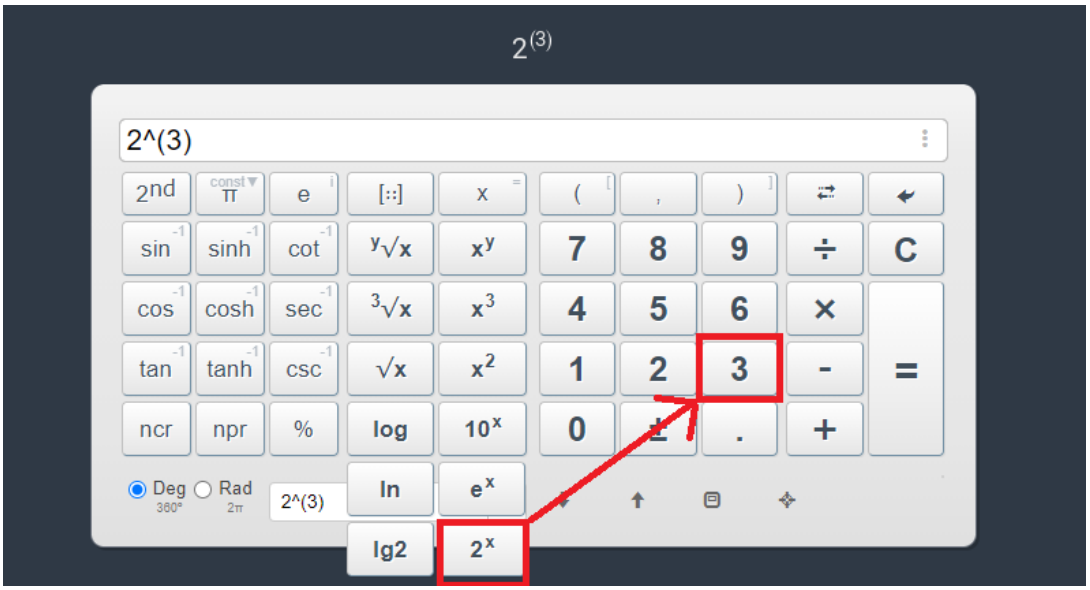
As an output, you need to send us a link to a private GitHub repository and share it with the usernames that are provided to you by us (see task output section).

## Selenium question:

Navigate to the following website: https://web2.0calc.com/

Using JAVA Selenium and TestNG have the calculator make power operations by 2 (חזקה ב-2)

See example of 2^3:




- Make Sure that the value of the operation 2^1 is 2
- Make Sure that the value of the operation 2^2 is 4
- Make Sure that the value of the operation 2^3 is 8
- Open History area and write function that prints to console the operations history (assume the number of operations might be changed in the future)

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Please write the program in a clean, short and sophisticated way.

Use 2 Classes in your solution:

Class 1 :

```
import …

public class base
{
 protected WebDriver driver;
 protected String URL = "https://web2.0calc.com/";
     .
     .

}
```

Class 2 :

```
import …
public class baseTests extends base


@BeforeClass
public void openBrowser()
{
    WebDriverManager.chromedriver().setup();
    driver = new ChromeDriver();
    driver.manage().window().maximize();
     .
     .
}

@Test
public void Test…
{
   .
   .
}

.
.
@AfterClass
```

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## JAVA question

The Ministry of Foreign Affairs helps sites in Israel to organize groups of people from all over the world to reach the sites on Saviour Day in a way that will make the best use of the number of people. To close a day on the site, there must be a number of people in groups between 90% -100% occupancy of the site.
To be clear - there might be 2 groups or more the close a Site if the number sets well like:
Mini Israel capacity is 32 people.

1. A group of 10 people from France wants to go to Mini Israel.
2. A group of 20 people from Italy wants to go to Mini Israel.

We can close the Site for this day with 2 groups.

Then we will have:

1. Different types of sites with different occupancy of people (Mini Israel, the Rock Church, the Western Wall, Gardens in the Islands, Old Jaffa, White Tel Aviv...), each Site type contained by a Class.
2. Groups of people (including the number of people in a group) from different parts of the world and a destination site they want to reach.
3. The Ministry of Foreign Affairs.

Please solve (using as many and preferred Java OOP concepts):

a. Write down a method that gets a linked list of all the groups that have expressed a desire to come and returns a linked list of the desired sites without repetitions.
b. Write down a method that gets a linked list of all the groups and return a list of sites that can close a deal, it is mandatory to use section A.
c. Write down a method that gets a linked list of all the groups, the name of the largest group must be printed for each site, it is mandatory to use section B.
d. Write a line that takes an Array List of the groups and returns a Map which holds the key to the sites and all groups as value.

*** Bonus: Write the solution using Collection streams (lambda).

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## Task output

1. Create a new private GitHub repository
2. On the `master` branch, create an empty README.md file
3. Commit this file to master
4. Create a new branch `exam` locally
5. Add the following to the README.md file:
    - Instructions on how to install/build/run the projects (consider that one who checks your task don’t have anything installed on his computer)
    - Explain why you chose your implementation approach
    - Explain the challenges you encountered
    - How would you improve your implementation if you had more time?
6. Push everything into the new `exam` branch
7. Create a PR in GitHub from your branch to the `master` branch
8. Add the provided GitHub users to the PR as reviewers: AlexKarpachev and ezamir
9. Send an email to the one who sends you the task with a link to the PR.

# Good Luck!