

MRM Take Home Exam

Follow the steps below to create and submit your code.

1. Create a GitHub **public** repository. Create Free Account <https://github.com/> , if you still do not have one.
2. Create a branch named [your surname]-[date in yyyyMMdd format] (ex. santos-20201124)
3. Write a Java code for at least 1 of the problems below.
4. Add a junit test case for each example (see input and output). Each test should pass.
5. Commit and push your codes to that branch from step2.
6. Send the URL link of your repo+branch to your recruiter. (ex. <https://github.com/mich/santos-20201124>)

Choose at least 1 Problem.

PROBLEM A [2 points] Output the word with no pair. Input is guaranteed to always have 1 possible output.

Input: "dog", "dog", "dog"

Output: "dog"

Input: "dog", "cat", "dog", "cow", "cat"

Output: "cow"

Input: "dog", "dog", "dog", "cat", "cat", "cat", "cat"

Output: "dog"

PROBLEM B [3 points] Output 3 numbers that adds up to the expected total.

Input: [3, 2, 4, 6, 8, 10], 18 → Output: [4,6,8]

Note: outputs 4, 6 and 8 because $4 + 6 + 8 = 18$

Input: [2, 2, 4, 6, 8, 2], 6 → Output: [2,2,2]

Note: because $2 + 2 + 2 = 6$

Input: [0, 2, 3, 6], 9 → Output: [0, 3, 6]

PROBLEM C [5 points] Output the **smallest** and **biggest** numbers of the biggest increasing trend. If there are multiple biggest uptrends, then just output the first one. An uptrend is a set of 2 or more continuously increasing numbers.

Input = 1, 1, 2, 3

Output = 1, 3

Input = 1, 2, 2, 3, 3, 0, 8, 10

Output = 0, 10

Note: the uptrend 0, 8, 10 (10 minus 0 is 10) is bigger than the first uptrend 1 ... 3 (3 minus 1 is 2).

Input = 5, 4, 3, 2, 1

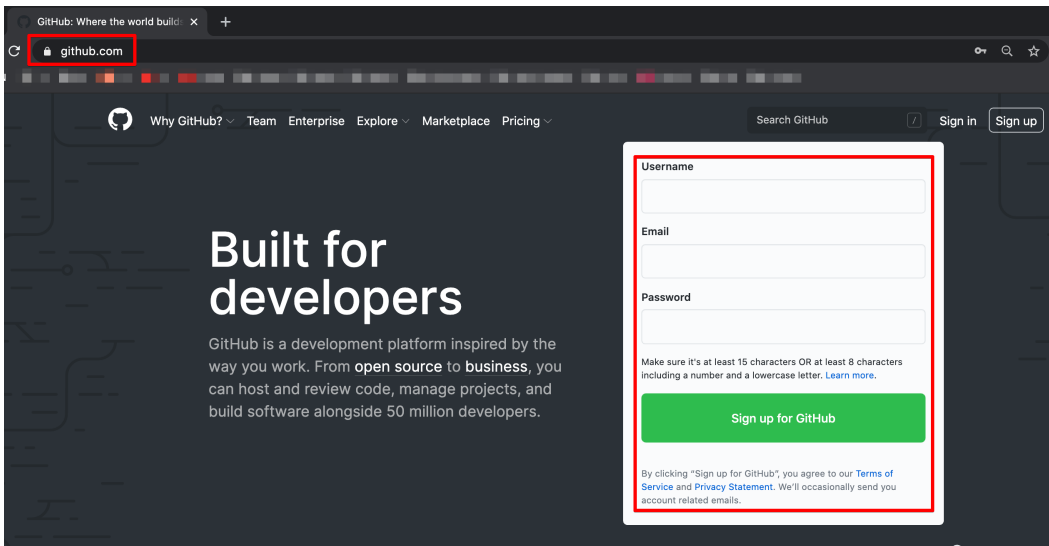
Output = empty, "" or null

Note: this is a down trend so no output.

Input = 5, 4, 3, 2, 1, 2

Output = 1, 2

Note: uptrend is from 1 to 2 only, the first part is a downtrend.



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository](#).

Repository template

Start your repository with a template repository's contents.

No template ▾

Owner *



casis ▾

Repository name *

/ asis-20201124 ✓

Great repository names are short and memorable. Need inspiration? How about **laughing-invention**?

Description (optional)

☒ Public



Anyone on the internet can see this repository. You choose who can commit.

☐ Private



You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

☐ Add a README file

This is where you can write a long description for your project. [Learn more](#).

☐ Add .gitignore

Choose which files not to track from a list of templates. [Learn more](#).

☐ Choose a license

A license tells others what they can and can't do with your code. [Learn more](#).

Create repository