

EXAM 04
ALGORITHM

Date: 11TH JAN 2021

Instructions - ការណែនាំ

- You are not allowed to talk or discuss each other during exam.
- If you are found **cheating** or **attempting** to cheat, you will get a 0 score to this exam

ហាមជជែកឬពិភាក្សាគ្នាក្នុងពេលប្រឡង។ បើអ្នកត្រូវបានរកឃើញថាជួបចម្លងឬ ព្យាយាមបើកមើល សំណៅឯកសារ
នោះអ្នកនឹងត្រូវបញ្ឈប់ពីការប្រឡង។

- Write your answer on this WORD document and **assign it on the google classroom** at the end of the 3 hours

EXERCICE 1- 15 PTS

Find the **index** of the **FIRST** 7 in an array

Input

- An array of numbers

Output

- The index of the FIRST 7 found in the array
 - Or : Not found, if not 7 found in the array

Examples

Input	Output
[1, 5, 9, 7, 1]	3 The first 7 is at index 3
[1, 7, 9, 7, 1]	1 The first 7 is at index 1
[7, 7, 7, 7]	0 The first 7 is at index 0
[1, 2, 3]	Not found

YOUR ANSWER

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EXERCICE 2- 10 PTS

Find the **index** of the **LAST** 7 in an array

Input

- An array of numbers

Output

- The index of the LAST 7 found in the array
 - Or : Not found, if not 7 found in the array

Examples

Input	Output
[1, 5, 9, 7, 1]	3 The last 7 is at index 3
[1, 7, 9, 7, 1]	3 The last 7 is at index 1
[7, 7, 7, 7]	0 The last 7 is at index 3
[1, 2, 3]	Not found

YOUR ANSWER

EXERCICE 3- 15 PTS

Find the indexes **of ALL 7** found in an array

Input

- An array of numbers

Output

- An array of numbers : the indexes of all 7 found in the array

Examples

Input	Output
[1, 8, 9, 7, 1]	[3] 7 found at indexes : 3
[1, 7, 9, 7, 1]	[1, 3] 7 found at indexes : 1 and 3
[7, 7, 7, 7]	[0, 1, 2, 3] 7 found at indexes : 0, 1, 2, 3
[1, 2, 3]	[] No 7 found

YOUR ANSWER

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EXERCICE 4- 10 PTS

The user (input) needs to enter the number 72

- As long as the number entered is NOT 72, we print “again” on the console
- When the number entered is 72, we print “win”

Examples

Input	Output
7 24 72	again again win
72	win
1 1 1 1 72	again again again again win

YOUR ANSWER

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EXERCICE 5- 15 PTS

The user (input) need to enter the number 72

- As long as the number entered is NOT 72, we print “again” on the console
- When the number entered is 72, we print “win”
- This time : the user can try ONLY 3 times to guess
 - If the number is not found after 3 tries, we print “lost”

Examples

Input	Output
7 24 72	again again win
72	win
1 1 1 1	again again again lost <u>explanation</u> : only 3 tries are allowed to find the number 72

YOUR ANSWER

EXERCICE 6- 15 PTS

Check if **ALL** names have **between 4 and 6 characters**

Input

- An array of names (string)

Output

- "GOOD" if ALL names have between 4 and 6 characters
- "BAD" otherwise

Examples

Input	Output
["ronan", "hugo", "rady"]	GOOD
["ronan", "hugo", "jonathan"]	BAD
["ronan"]	GOOD
["him"]	BAD

YOUR ANSWER

EXERCICE 7 - 20 PTS

Find the fruits **cheaper** (less expensive) than **20** dollars

Input

- A list of fruits – each fruit has:
 - A name
 - A price

Output

- The list of fruit name, whose price is LESS (<) than 20

Examples

Input	Output
<pre>array=[{"name": "mango", "price": 90}, {"name": "banana", "price": 12}, {"name": "apple", "price": 13}]</pre>	<pre>["banana", "apple"]</pre> <p>Explanation : banana ad apple price is less than 20, so we keep them</p>
<pre>array=[{"name": "strawberry", "price": 100}, {"name": "orange", "price": 20}, {"name": "lemon", "price": 35}]</pre>	<pre>[]</pre> <p>Explanation: no fruit is less than 20, so empty array!</p>
<pre>array=[{"name": "banana", "price": 10}, {"name": "carrot", "price": 15}, {"name": "potatoe", "price": 10}]</pre>	<pre>["banana", "carrot", "potatoe"]</pre>

YOUR ANSWER

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