

**Question - 1**

Check if a word contains 2 letters

**WHAT YOUR PROGRAM SHALL DO**

We want to check if a word contains 2 letters

We enter on console :

1. The word to check
2. the first letter to check
3. the second letter to check

We print

- VALID if the word contains the 2 letters
- NOT VALID otherwise

**WARNING :** The character can be uppercase or lowercaseExample

INPUT

monday

m

Y

OUTPUT

VALID

To perform this program you MUST code and use this function

Function name	contains
Parameters	<ul style="list-style-type: none"><li>• A word (string)</li><li>• A character ( string)</li></ul>
Return value	True if the word contains the character (at least one time)  <b>WARNING</b> The character can be uppercase or lowercase
Examples	contains("ronan", "y") --> False contains("ronan", "O") --> True

**Question - 2**

We want to reverse a string.

**WHAT YOUR PROGRAM SHALL DO**

We want to reverse a string.

For instance the reversed string of "1234abcd" will be "dcba4321"

Example

INPUT

1234abcd

OUTPUT

dcba4321

To perform this program you MUST code and use this function

Function name	reverse
Parameters	string
Return value	string, which is the reversed of the given string
Examples	isInteger("abcd") --> "dcba"

### Question - 3

multiply numbers from start value (inclusive) to end value (inclusive)

We want to multiply numbers from start value (inclusive) to end value (inclusive)

For instance, if start value = 2 and end value = 5, we want to compute:

$2 * 3 * 4 * 5$

To do so, we enter on console (INPUT) :

- The start number (integer)
- The end number (integer)

Example:

INPUT

4

6

OUTPUT

120

Reason:  $4 * 5 * 6 = 120$

FUNCTIONS

To perform this program you MUST code and use this function

Function name	multiplyWithinRange
Parameters	start (an integer) end (an integer)
Return value	The multiplication of numbers from start to end values
Examples	multiplyWithinRange (2, 5) --> 120  Explanation : we start from 2 and we ends at 5 : $2 * 3 * 4 * 5 = 120$
Warning	If start value is higher than end value, you need to return 0

### Question - 4

count the number of times a character exists in a list of words

We want to count the number of times a character exists in a list of words

For instance:

We want to find how many times the character "A" exists in ["BBB", "CCA", "XXA"]

The answer is 2, because we can find 2 times the character "A" in this list of words

INPUT:

A list of words (example : = ["HIM", "RADY", "RONAN", "SOVANND"])

A character (example : R)

OUTPUT:

The number of times the character exists in the list

FUNCTIONS

To perform this program, you MUST code and use this function

Function name	CountChar(word, char)
Parameters	word , char
Return value	The number of char that have found in this WORD
Examples	word = "RADY" countChar(word, "R")-----> Output: 1 explanation: In word we have two "R"
Warning	If the word doesn't have character return 0

### Question - 5

average of score for all students, for all topics

We have the scores of some students in different topics and we want to compute the total average (all student, all topics)

INPUT:

- Number of students (integer)
- For each students:
  - Array with the score of the student on different topics

OUTPUT:

- The average of score for all students, for all topics

Example:

[50, 60]  
[30, 50]  
[60, 80, 70]

Output = 55

Explanations:

We enter 3, so have 3 students

We read 3 list of score

- The first average is 55  $(50+60 / 2)$
- The second average is 40  $(30+50 / 2)$
- The last average is 70  $(60+80 +70 / 3)$
- 

So the final average is:  $55 (55 + 40 + 70 / 3)$

### FUNCTIONS

To perform this program, you MUST code and use:

Function name	average
Parameters	<ul style="list-style-type: none"> <li>• List of numbers           <ul style="list-style-type: none"> <li>◦ Ex: [60, 80, 70]</li> </ul> </li> </ul>
Return value	The average of the given numbers