Object Oriented Programming

Programming Assignment #1

Functions

1) Write a **function** that receives three integers and returns the maximum integer among the three.

Example:

Input:
50
70
30

Output:
70

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2) Write a **function** that receives an array of integers and returns the index of the maximum integer among the array.

Sample run (input in green):

Enter array size: 5
Enter array elements:
50
70
30
1

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3) Given a string and an int (a key), write **two functions** for encrypting and decrypting the given string using the given key.

The encryption is done by adding the key to ASCII of each character of the string , and the decryption is done by subtracting the key from ASCII of each character.

For example if the input string is “abcz” and the key is 1 the encryption function should return “bcda”.

Note that you have to keep the characters in the string readable (between a - z) after encrypting or decrypting, so you should encrypt or decrypt in a cyclic way. Consider these examples:
- Encrypt character 'z' with key 1, should be 'a'
- Encrypt character 'z' with key 3, should be 'c'
- Decrypt character 'b' with key 3, should be 'y'

Example: (input in green)

Enter the string:
abcz
Enter key:
2
Encrypt or decrypt (e or d): e
cdeb

Example 2:

Enter the string:
abcz
Enter key:
1
Encrypt or decrypt (e or d): d
zaby

Hint: You need to use mod operation.

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4) Given two matrices, write a **function** to add two matrices. The function should receive two arrays and return a result array.
You should also write the printing result matrix code in a separate **function**.

Note that to add two matrices, add each element in the first matrix to the corresponding element in the second matrix.

Example: (input in green)

Enter matrix rows: 2
Enter matrix cols: 3
Enter the first matrix elements:
Enter row#0 elements:
10
20
30
Enter row#1 elements:
5
8
10
Enter the second matrix elements:
Enter row#0 elements:
10
20
30
Enter row#1 elements:
40
50
60
Result:
20 40 60
45 58 70