

## C – Programming

### Assignment 4

- 1- Write a C function to take 2 elements and swap them (using pointers).
- 2- Write a C function to take 2 arrays and swap them (try with 2 different sizes) (using pointers).
- 3- Implement a Macro to know the Size of any array.  
`# define            My_array_size(array)            _____`
- 4- Implement a Macro called my\_size\_of() that does the same function as sizeof( ).  
`# define            my_size_of( type)            _____`
- 5- Write c function to find the most repeated number from (0 → 9) in an array of char (assume size of the array is large) try to optimize your code by **using frequency array method (do not use arrays inside the function)**.
- 6- Write a C Program to Reverse a string using pointers

Examples:

Input→ "Sukkar"

Output→ "rakkus"

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- 7- arrange the numbers from 1 to 9 in 2D array using pointers

Example:

Input→

5	3	8
1	7	4
9	2	6

Output→

1	2	3
4	5	6
7	8	9

- 8- Write a C function that take two numbers and return an array containing all numbers between the two given numbers.

Examples:

Input→ 2, 6

Output→ 3, 4, 5

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Input→ 10, 5

Output→ 6,7,8,9

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- 9- Write a C function that count the longest consecutive occurrence of any number, and return the number that is most repeated and the count of how many times it was repeated.

*/\* this function need to return the count and the number to the main ... do not print them in function \*/*

Example:

Input→ {1,2,2,3,3,3,3,4,4,4,4,3,3,3}

Output→ number 4 was repeated 5 times.

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**Extra**

- 10- Write a C Function that swaps two pointers.

- 11- Write a C program that take the first, second and last name from user in one string, then swap the second and last names.

*---- ASK FOR HINT ----*

Example:

Input→ "Sayed Mohamed Sukkar"

Output→ "Sayed Sukkar Mohamed"