Section (3) Assignment

This assignment aims to improve critical thinking and problem-solving using C language , you will be exposed to these C topics :

- Control Flow & loops
- Bitwise operations
- Strings in C
- Functions

1. (Counting 7s)

Write a program that reads an integer (5 digits or fewer) and determines and prints how many digits in the integer are 7s.

Input : 87571

Output : 2

Input : 87777

Output : 4

2. (Palindrome Tester)

A palindrome is a number or a text phrase that reads the

same backward as forward. For example, each of the following five-digit integers

is a palindrome: 12321, 55555, 45554 and 11611. Write a program that reads in a

five-digit integer and determines whether it's a palindrome or not.

[Hint: Use the division and remainder operators to separate the number into its individual digits.]

3. Counting ones.

Write a C program that takes a 4-byte integer, and then display how many ones "1" are there in this number binary representation.

Input : 7

Output : 3

Input : 127

Output : 7

4. Prime Numbers

An integer is said to be prime if it's divisible by

only 1 and itself. For example, 2, 3, 5 and 7 are prime, but 4, 6, 8

and 9 are not.

a) Write a function that determines whether a number is prime.

b) Use this function in a program that determines and prints all

the prime numbers between 1 and 10,000

This should be your output :D <check file prime_out.txt>

5. Reverse string

Write a C program to take a String from the user and then print it back reversed using pointers.

Maximum string should be 50 byte long, and user can enter less than 50 characters.

Input : omarWahba

Output : abhaWramo

Codes should be delivered with a Code file and screenshot of the output.

Example

You should deliver the following for Reverse string.

- Reverse_string.c (your code to solve the problem)
- Reverse_string_run.png (screenshot while program is running)

A well-documented code and good file structure will be graded bonus points.

Deadline is on Friday (17/3/2023) Good Luck

Best of Luck,

Yours, Omar wahba