gcc program.c # Compiles program.c and generates a default executable named a.out **./a.out** # Runs the compiled program
gcc program.c -o my_program # Compiles program.c and creates an executable named my_program **./my_program** # Runs the compiled program
gcc program.c -o input_program # it takes inputs from input1.txt and displays the result in the terminal. **./input_program < input.txt**
gcc program.c -o io_program **./io_program < input.txt > output.txt** # it takes the inputs from input1.txt and creates the myoutput.txt document and writes the result here.
diff output1.txt myoutput.txt # compares the document output1.txt with the document myoutput.txt.
diff --ignore-all-space output1.txt myoutput.txt # compares the document output1.txt with the document myoutput.txt without ignoring the spaces.

QUESTION 1

Write an algorithm to find how many times a given substring occurs in a string. The substring should be consecutive (i.e., characters must appear together) and the input will only contain lowercase letters.

1. Function Implementation: The countSubstringOccurrences() function counts how many times the given substring appears in the main string, and it is called from the main() function.

2. Input: The user provides two strings: one for the main string and one for the substring.

3. Output: The function returns the count of occurrences of the substring in the main string.

4. Constraints: The substring is searched only consecutively and works with lowercase letters only.

Input1: Enter the main string: abcabcabc
Enter the substring: ab
Output1: 3 (The substring "ab" appears 3 times in the main string.)

Input2: Enter the main string: programmingprogramprogramprog
Enter the substring: prog
Output2: 4 (The substring " prog " appears 4 times in the main string.)