This is a machine problem about writing assembly language programs for the MIPS processor using the SPIM simulator installed on the Linux machines.

The problem
You have to write a program that will count the frequency of each character in a given character string. Do not count the blanks. Thus, if the input string is:

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then the frequency of $r = 5$, and the frequency of $t = 3$ and so on. Do not distinguish between capital and small letters.

What you need to do
Part 1. Write a subroutine COUNT that will accept a character as its input argument, and report how many times it occurred in the given string.
Part 2. The main program should call this subroutine for each new character in the string. You must use comments to make your program readable. Don’t forget to leave a blank line at the end of your program.

How to submit your assignment
Submit one folder containing (1) a text file for the main program and the subroutine, and (2) a test run with an input string containing at least 30 characters. The output should be in the format:

    Frequency of r = 5
    Frequency of t = 3
    Frequency of p = 2

And so on.
Name the folder with your firstname.lastname. Email your folder to the TA at ywang4@cs.uiowa.edu before the midnight of March 11, 2004.