Question:

1. Write a C program that accepts a string as input, print the length of the string and display the word frequency, then use pointers to find the first repeated and non-repeated character in the string, and print the output:

POSSIBLE TEST CASES:

INPUT:

SUJITHRA

OUTPUT:

Length of the string is: 8

Word frequency is: 8

No repeated characters found in the string.

First non-repeated character is: S

#2 INPUT:

ASSDFG

OUTPUT:

Length of the string is: 6

Word frequency is: 5

First repeated character is: S

First non-repeated character is: A

#3 INPUT:

RUDRESH

OUTPUT:

Length of the string is: 7

Word frequency is: 6

First repeated character is: R

First non-repeated character is: U

Answer:

#include <stdio.h>

#include <string.h>

#define MAX\_LENGTH 100

int main() {

char str[MAX\_LENGTH];

int len, freq[256] = {0}, i;

char \*p, \*rep = NULL, \*nonrep = NULL;

printf("Enter a string: ");

fgets(str, MAX\_LENGTH, stdin);

len = strlen(str) - 1;

for (p = str; \*p != '\0'; p++) {

freq[(int)\*p]++;

}

printf("Length of the string is: %d\n", len); printf("Word frequency is: ");

for (i = 0; i < 256; i++) {

if (freq[i] > 0) {

printf("%c:%d ", i, freq[i]);

}

}

printf("\n");

for (p = str; \*p != '\0'; p++) {

if (freq[(int)\*p] == 1 && nonrep == NULL) {

nonrep = p;

} else if (freq[(int)\*p] > 1 && rep == NULL) {

rep = p;

}

if (nonrep != NULL && rep != NULL) {

break;

}

}

if (rep == NULL) {

printf("No repeated characters found in the string.\n");

} else {

printf("First repeated character is: %c\n", \*rep);

}

if (nonrep == NULL) {

printf("No non-repeated characters found in the string.\n");

} else {

printf("First non-repeated character is: %c\n",\*nonrep);

}

return 0;}