

Digital assignment 2

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First 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;}
```