

Digital assignment 2

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First question:

Consider that you are going to analyze the characters in the given string. Write a C program to extract the characters in the given string and print whether the character is an uppercase alphabet, lowercase alphabet, digits, whitespace, special symbols. Print the count of each category by storing their counts in an array. Use appropriate looping constructs to implement this.

Answer:

```
#include <stdio.h>
#include <ctype.h>
#define MAX_LENGTH 100
int main() {
    char str[MAX_LENGTH];
    int counts[5] = {0};
    int i;
    printf("Enter a string:\n");
    fgets(str, MAX_LENGTH, stdin);
    for (i = 0; str[i] != '\0'; i++) {
        if (isupper(str[i])) {
            counts[0]++;
        } else if (islower(str[i])) {
            counts[1]++;
        } else if (isdigit(str[i])) {
```

```
        counts[2]++;
    } else if (isspace(str[i])) {
        counts[3]++;
    } else {
        counts[4]++;
    }
}
printf("Uppercase alphabets: %d\n", counts[0]);
printf("Lowercase alphabets: %d\n", counts[1]);
printf("Digits: %d\n", counts[2]);
printf("Whitespaces: %d\n", counts[3]);
printf("Special symbols: %d\n", counts[4]);
return 0;
}
```