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.

#include <stdio.h>

#include <ctype.h>

int main() {

char str[100];

int i, upper=0, lower=0, digits=0, space=0, special=0;

int counts[5] = {0}; kr

printf("Enter a string: ");

fgets(str, sizeof(str), stdin);

for(i=0; str[i]!='\0'; i++) {

if(isupper(str[i])) {

printf("%c is an uppercase alphabet.\n", str[i]);

upper++;

counts[0]++;

}

else if(islower(str[i])) {

printf("%c is a lowercase alphabet.\n", str[i]);

lower++;

counts[1]++;

}

else if(isdigit(str[i])) {

printf("%c is a digit.\n", str[i]);

digits++;

counts[2]++;

}

else if(isspace(str[i])) {

printf("%c is a whitespace.\n", str[i]);

space++;

counts[3]++;

}

else {

printf("%c is a special symbol.\n", str[i]);

special++;

counts[4]++;

}

}

printf("\nCounts:\n");

printf("Uppercase alphabets: %d\n", upper);

printf("Lowercase alphabets: %d\n", lower);

printf("Digits: %d\n", digits);

printf("Whitespaces: %d\n", space);

printf("Special symbols: %d\n", special);

printf("\nCounts (using array):\n");

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;

}

