**Practical -1**

**Problem Statement:**

Write a program to create a file and write code into it. Read the file's content to count the number of tokens in the code. Execute the code, display the output, save the output to the file, and then close the file.

**Code:**

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#include <ctype.h>

#define MMAX = -INT\_MAX

#define MAX = INT\_MAX

int main(){

FILE\* ptr;

FILE\* fptr;

char ch;

char str[100];

int tokens=0;

char \*keywords[] = {"int", "float", "char", "string", "bool", "printf", "scanf", "const", "return"};

char \*special\_chars[] = {"(", ")", "{", "}", "[", "]", ";", ","};

ptr = fopen("code.txt", "r");

while (fscanf(ptr, "%s", str) != EOF) {

printf("%s\n", str);

// Check if the token is a keyword

for (int i = 0; i < sizeof(keywords) / sizeof(keywords[0]); i++) {

if (strcmp(str, keywords[i]) == 0) {

tokens++;

break;

}

}

// Check if the token is a special character

for (int i = 0; i < sizeof(special\_chars) / sizeof(special\_chars[0]); i++) {

if (strcmp(str, special\_chars[i]) == 0) {

tokens++;

break;

}

}

// Check if the token is a valid identifier (variable name)

if (isalpha(str[0]) || str[0] == '\_') {

int is\_valid = 1;

for (int i = 1; str[i] != '\0'; i++) {

if (!isalnum(str[i]) && str[i] != '\_') {

is\_valid = 0;

break;

}

}

if (is\_valid) {

tokens++;

}

}

// Check if the token is a number

int is\_number = 1;

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

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

is\_number = 0;

break;

}

}

if (is\_number) {

tokens++;

}

}

printf("No of tokens are : %d " , tokens);

fclose(ptr);

fptr = fopen("output.txt", "w");

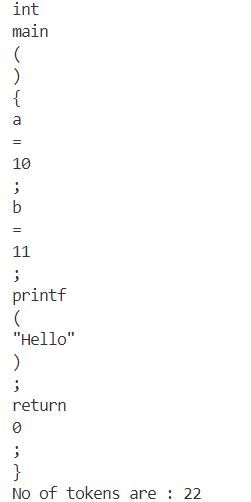
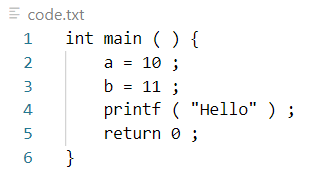
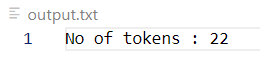
fprintf(fptr , "No of tokens : %d" , tokens);

fclose(fptr);

return 0;

}

**Output:**

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