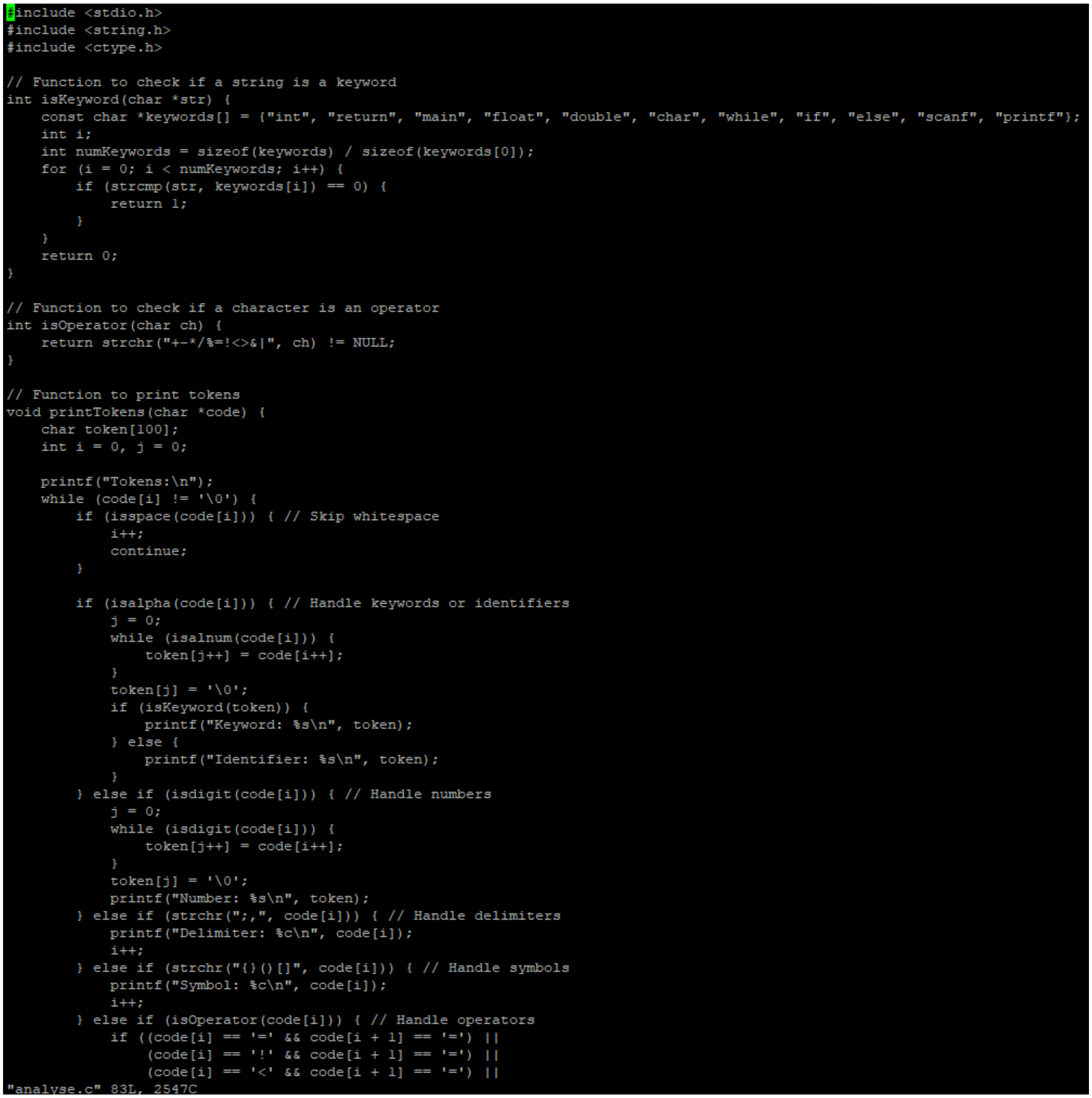
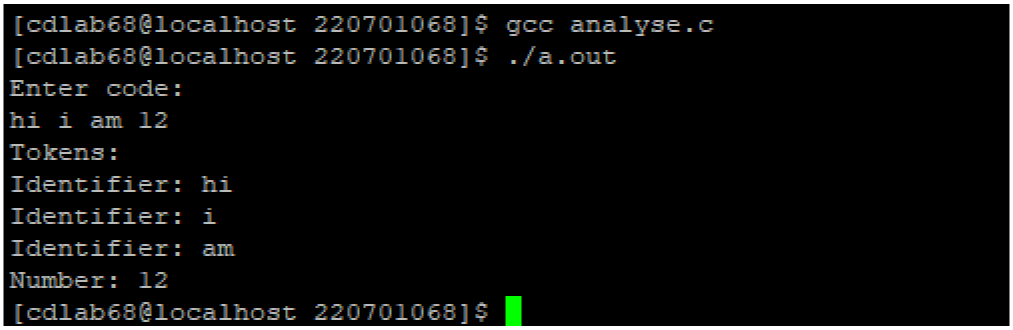
EXP NO: 2 **DATE:21/2/25**

DEVELOP A C PROGRAM TO ANALYSER A GIVEN C CODE SNIPPET AND RECOGNIZE DIFFERENT TOKENS, INCLUDING KEYWORD, IDENTIFIERS,OPERATOR, DELIMITER AND SPECIAL SYMBOLS



```
#include <stdio.h>
#include <string.h>
#include <ctype.h>

// Function to check if a string is a keyword
int isKeyword(char *str) {
    const char *keywords[] = {"int", "return", "main", "float", "double", "char", "while", "if", "else", "scanf", "printf"};
    int i;
    int numKeywords = sizeof(keywords) / sizeof(keywords[0]);
    for (i = 0; i < numKeywords; i++) {
        if (strcmp(str, keywords[i]) == 0) {
            return 1;
        }
    }
    return 0;
}

// Function to check if a character is an operator
int isOperator(char ch) {
    return strchr("+-*/%=!<>&|", ch) != NULL;
}

// Function to print tokens
void printTokens(char *code) {
    char token[100];
    int i = 0, j = 0;

    printf("Tokens:\n");
    while (code[i] != '\0') {
        if (isspace(code[i])) { // Skip whitespace
            i++;
            continue;
        }

        if (isalpha(code[i])) { // Handle keywords or identifiers
            j = 0;
            while (isalnum(code[i])) {
                token[j++] = code[i++];
            }
            token[j] = '\0';
            if (isKeyword(token)) {
                printf("Keyword: %s\n", token);
            } else {
                printf("Identifier: %s\n", token);
            }
        } else if (isdigit(code[i])) { // Handle numbers
            j = 0;
            while (isdigit(code[i])) {
                token[j++] = code[i++];
            }
            token[j] = '\0';
            printf("Number: %s\n", token);
        } else if (strchr(";,", code[i])) { // Handle delimiters
            printf("Delimiter: %c\n", code[i]);
            i++;
        } else if (strchr("{}()[]", code[i])) { // Handle symbols
            printf("Symbol: %c\n", code[i]);
            i++;
        } else if (isOperator(code[i])) { // Handle operators
            if ((code[i] == '=' && code[i + 1] == '=') ||
                (code[i] == '!' && code[i + 1] == '=') ||
                (code[i] == '<' && code[i + 1] == '=') ||
"analyse.c" 83L, 2547C
```



```
[cdlab68@localhost 220701068]$ gcc analyse.c
[cdlab68@localhost 220701068]$ ./a.out
Enter code:
hi i am 12
Tokens:
Identifier: hi
Identifier: i
Identifier: am
Number: 12
[cdlab68@localhost 220701068]$ 
```