

WEEKLY ASSIGNMENT REPORT

Question 1:

```
1  #include <stdio.h>
2  #include <ctype.h>
3
4  int main() {
5      char str[3000];
6      int vowels = 0, consonants = 0, i = 0;
7      printf("Enter a string: ");
8      fgets(str, sizeof(str), stdin);
9      while (str[i]) {
10         char c = tolower(str[i]);
11         if (c >= 'a' && c <= 'z') {
12             if (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u')
13                 vowels++;
14             else
15                 consonants++;
16         }
17         i++;
18     }
19     printf("Vowels: %d\nConsonants: %d\n", vowels, consonants);
20     return 0;
21 }
22
```

Output:

```
(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ gcc q1.c

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a string: abcdefghijklmnopqrstuvwxyz
Vowels: 5
Consonants: 21

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a string: compiler lab
Vowels: 4
Consonants: 7
```

Question 2:

```
C/C++

#include <stdio.h>

#include <string.h>

int main() {

    char *keywords[] = {"int", "float", "if", "else", "return", "for", "while",
        "do", "break", "char", "double", "switch", "case", "default", "void", "const",
        "enum", "extern", "goto", "long", "register", "short", "signed", "sizeof",
        "static", "struct", "typedef", "union", "unsigned", "volatile", "continue",
        "auto", "restrict"};

    int n = sizeof(keywords) / sizeof(keywords[0]);

    char str[50];

    int isKeyword = 0;

    printf("Enter a string: ");

    scanf("%s", str);

    for (int i = 0; i < n; i++) {

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

            isKeyword = 1;

            break;

        }

    }

    if (isKeyword)

        printf("The string is a keyword.\n");

    else

        printf("The string is not a keyword.\n");

}
```

```
    return 0;

}
```

Output:

```
(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ gcc q2.c

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a string: fvbajkshdf
The string is not a keyword.

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a string: int
The string is a keyword.

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a string: float
The string is a keyword.
```

Question 3:

```
1  #include <stdio.h>
2  #include <string.h>
3
4  int main() {
5      char line[200];
6      printf("Enter a line: ");
7      fgets(line, sizeof(line), stdin);
8      if (strncmp(line, "//", 2) == 0 || (line[0] == '/' && line[1] == '*'))
9          printf("The line is a comment.\n");
10     else if (strstr(line, "*/") != NULL)
11         printf("The line is the ending of a comment.\n");
12     else
13         printf("The line is not a comment.\n");
14     return 0;
15 }
16
```

Output:

```
(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ gcc q3.c

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a line: fkajhsdfbhjka
The line is not a comment.

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a line: //kabsdfjkhasdbf
The line is a comment.

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a line: /*bfjhkasdbfhjabdsfh
The line is a comment.

(thenetherwatcher@kali)-[~/Documents/CS358-Lab/Lab-2]
$ ./a.out
Enter a line: jahsdgvfjvhvashjfsjhdfvh*/
The line is the ending of a comment.
```