ASSIGNMENT NO: 10

NAME: SYEDA FAIZA ASLAM

ROLL NO: CT-064

SECTION: B

COURSE: CODE IN PLACE

TASKS:

TASK: 01

QUESTION NO: 01- String Analysis Tool

Write a program using functions that performs text
analysis on an input sentence.
Functions:

int countVowels(string text)
int countWords(string text)
int countUppercase(string text)

SOURCE CODE:

```c
#include<stdio.h>
#include<string.h>
int countVowel(char text[])
{
    int t=0;
    int count=strlen(text);
    for(int i=0; i<count; i++)
    {
        if(text[i] == 'a' || text[i] == 'e' || text[i] == 'i' || text[i] == 'o' || text[i]
== 'u')
        {
            t++;
        }
    }
```

```c
        return t;
}

int countWord(char text[])
{
        int t=0;
        int word=0;
        //int count=strlen(text);
        for(int i=0; text[i]!='\0'; i++)
        {
                if(text[i] != ' ' && text[i]!= '\t' && text[i]!= '\n')
                {
                        if(!word)
                        {
                        t++;
                        word=1;
                        }
                }
                else
                {
                        word=0;
                }
        }
        return t;
}

int countUppercase(char text[])
{
        int t=0;
        int count=strlen(text);
        for(int i=0; i<count; i++)
        {
                if(text[i]>='A' && text[i]<='Z')
                {
                        t++;
```
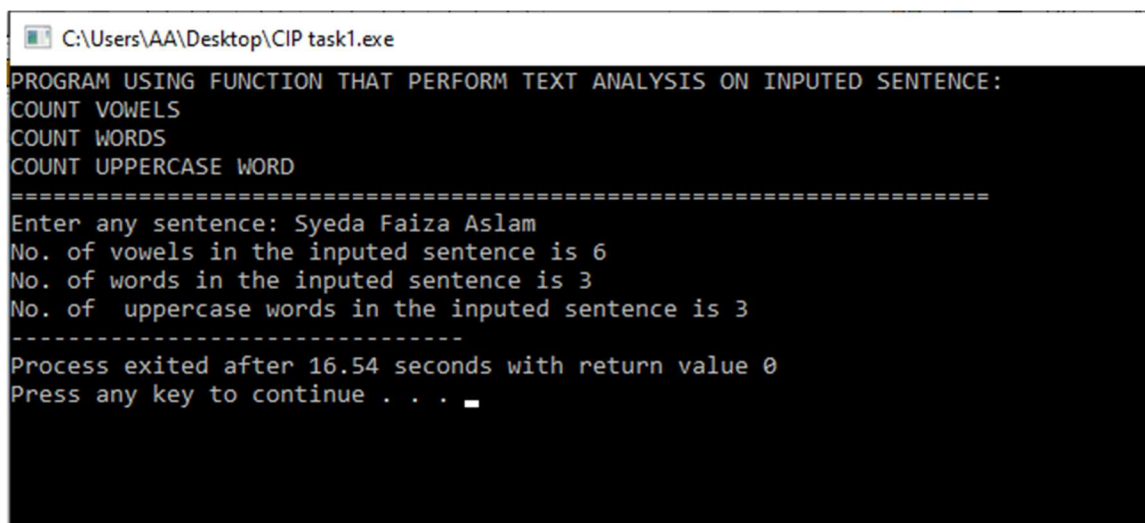
```c
            }
        }
        return t;
}
int main(void)
{
        printf("PROGRAM USING FUNCTION THAT PERFORM TEXT ANALYSIS ON
INPUTED SENTENCE:\nCOUNT VOWELS\nCOUNT WORDS\nCOUNT UPPERCASE
WORD\n");
        printf("=====================================================
=============\n");
        char str[50];
        printf("Enter any sentence: ");
        gets(str);
        int check=countVowel(str);
        printf("No. of vowels in the inputed sentence is %d",check);
        printf("\nNo. of words in the inputed sentence is %d",countWord(str));
        printf("\nNo. of  uppercase words in the inputed sentence is
%d",countUppercase(str));
        return 0;
}
```

OUTPUT:


```
PROGRAM USING FUNCTION THAT PERFORM TEXT ANALYSIS ON INPUTED SENTENCE:
COUNT VOWELS
COUNT WORDS
COUNT UPPERCASE WORD
==================================================================
Enter any sentence: Syeda Faiza Aslam
No. of vowels in the inputed sentence is 6
No. of words in the inputed sentence is 3
No. of  uppercase words in the inputed sentence is 3
--------------------------------
Process exited after 16.54 seconds with return value 0
Press any key to continue . . .
```

TASKS: 02
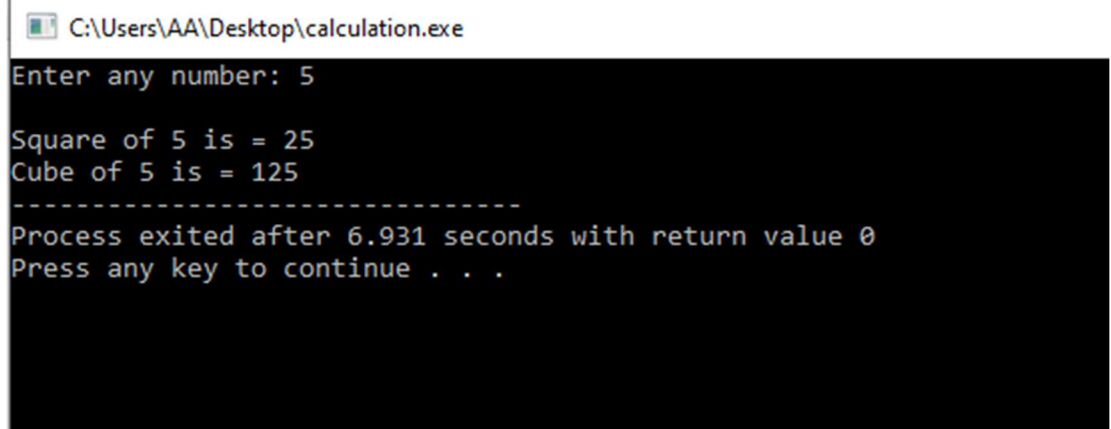
QUESTION NO: 02- Square and Cube Calculator

- Create a program to calculate and display:
- Square of a number
- Cube of a number
- Define calculation functions in power.h

- Use these functions in calc.c to display results for a user-inputted number.

SOURCE CODE:

```c
//header file Power.h extension
//Power.h
#include<stdio.h>
int square(int num)
{
    return num*num;
}
int cube(int num)
{
    return num*num*num;
}
//Calculation .c file extension
#include<stdio.h>
#include"Power.h"
int main()
{
```

```c
    int number;
    printf("Enter any number: ");
    scanf("%d",&number);
    printf("\nSquare of %d is = %d",number,square(number));
    printf("\nCube of %d is = %d",number,cube(number));
    return 0;
}
```

OUTPUT:

QUIZ:

Functions in C – Multiple Choice Quiz

1. What is the correct syntax for declaring a function in C?

A) function_name(datatype parameter);

B) return_type function_name(parameter list);

C) function_name return_type(parameter list);

D) function(return_type parameter list);

2. Which of the following statements about functions in C is true?

A) A function must always return a value.

B) A function can call itself.

C) A function cannot have parameters.

D) A function cannot be called from main().

3. What will be the output of the following code?

```
#include <stdio.h>
void greet() { printf("Hello"); }
int main() { greet(); greet(); return 0; }
```

A) Hello

B) Hello Hello

C) HelloHello

D) Compilation error

4. A function that does not return any value must be declared with which keyword?

A) null

B) int

C) void

D) empty

5. What will be the output?

#include <stdio.h>

int add(int a, int b) { return a + b; }

int main() { printf("%d", add(2, 3) * add(1, 2)); return 0; }

A) 9

B) 10

C) 15

D) 25

6. What will happen if you declare a function inside another function in C?

A) It will work normally.

B) The inner function will override the outer one.

C) It will cause a compilation error.

D) It will run only once.

7. Consider the code below. What will be the output?

#include <stdio.h>

void change(int x) { x = 10; }

int main() { int x = 5; change(x); printf("%d", x); return 0; }

A) 10

B) 0

C) 5

D) Undefined

8. What is the output?

#include <stdio.h>

int fun(int x) { return x + 1; }

int main() { int x = 5; printf("%d", fun(fun(x))); return 0; }

A) 5

B) 6

C) 7

D) 8

9. Which keyword is used to stop the execution of a function and return a value to the caller?

A) exit

B) break

C) continue

D) return

10. What is the purpose of the main() function in a C program?

A) It defines all user-defined functions.

B) It initializes all variables automatically.

C) It is the starting point of program execution.

D) It must always be called manually.