



Course Name: Information and Communication Technologies Lab Code: CEN1005

LAB # 4: Introduction to C Programming

Department	Registration Number/Name	Semester/Section
BS CEN	F24604018/Muhammad Hamzah Iqbal	1
Date	Instructor's Name	Instructor's Signature
12/10/2024	Iqra Ashraf	

Objectives:

- To understand the basics of C programming.
- To get familiar with standard libraries.
- To perform arithmetic operations in C environment.

Lab Tasks:

Question 1: Write a program in C to find the square of any number.

Code:

```
#include<stdio.h>

int main()
{   int a,square;

    printf("Hello world,Enter a value of x:");

    scanf("%d",&a);

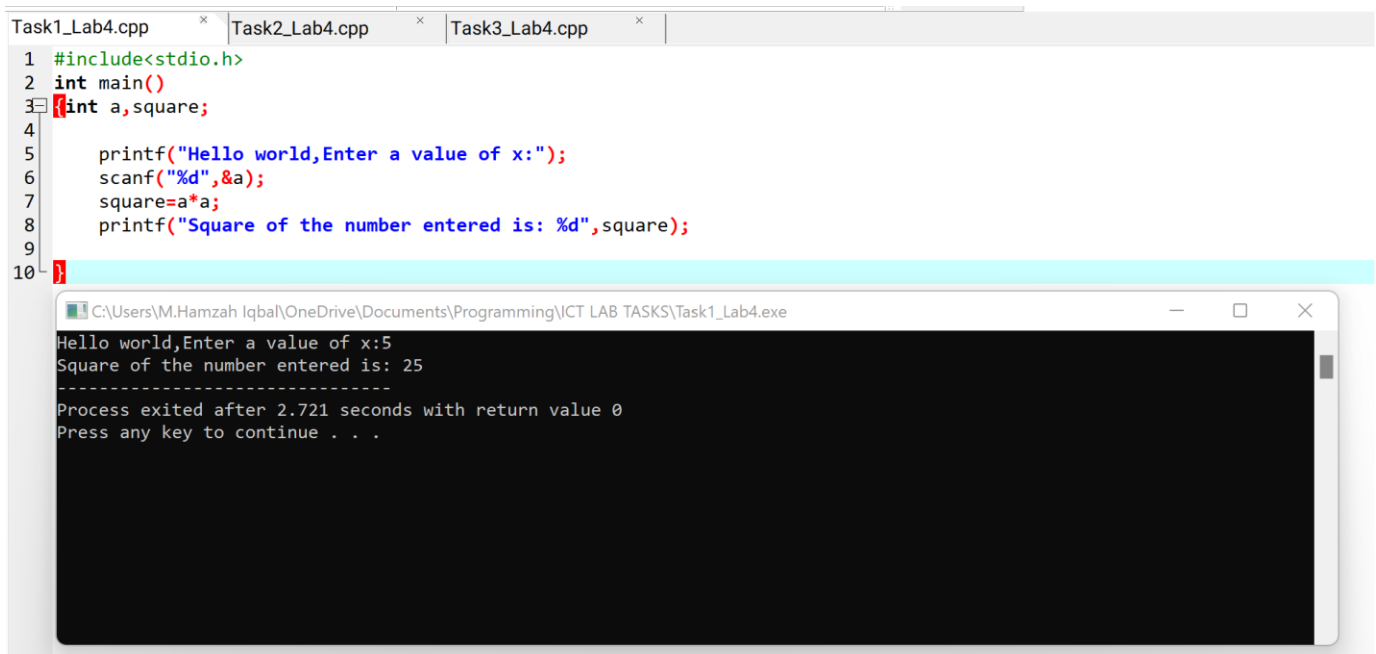
    square=a*a;

    printf("Square of the number entered is: %d",square);

return 0;

}
```

Output:



The screenshot displays a code editor with three tabs: Task1_Lab4.cpp, Task2_Lab4.cpp, and Task3_Lab4.cpp. The active tab, Task1_Lab4.cpp, shows the following C code:

```
1 #include<stdio.h>
2 int main()
3 {int a,square;
4
5     printf("Hello world,Enter a value of x:");
6     scanf("%d",&a);
7     square=a*a;
8     printf("Square of the number entered is: %d",square);
9
10 }
```

Below the code editor, a terminal window titled "C:\Users\M.Hamzah Iqbal\OneDrive\Documents\Programming\ICT LAB TASKS\Task1_Lab4.exe" shows the program's output:

```
Hello world,Enter a value of x:5
Square of the number entered is: 25
-----
Process exited after 2.721 seconds with return value 0
Press any key to continue . . .
```

Question 2: Write a program that takes two numbers as input and prints their sum.

Code:

```
#include<stdio.h>

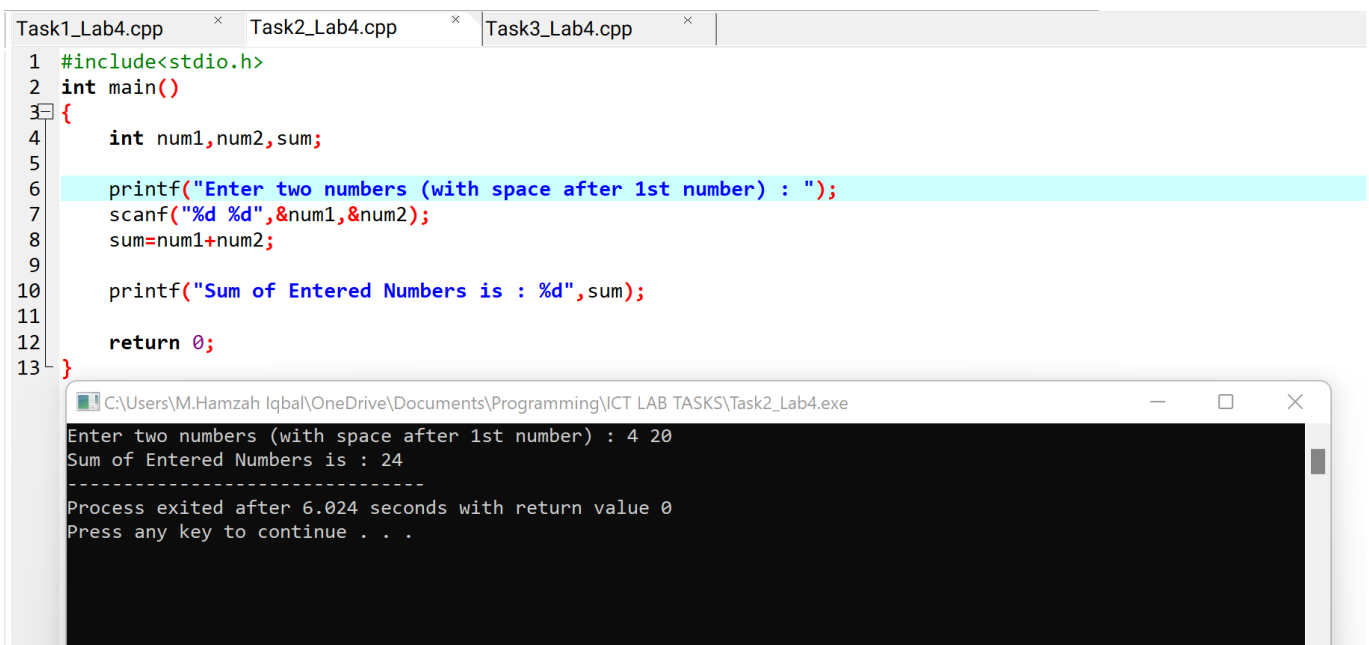
int main()
{
    int num1,num2,sum;

    printf("Enter two numbers (with space after 1st number) : ");
    scanf("%d %d",&num1,&num2);
    sum=num1+num2;

    printf("Sum of Entered Numbers is : %d",sum);

    return 0;
}
```

Output:



The screenshot shows a code editor with three tabs: Task1_Lab4.cpp, Task2_Lab4.cpp (active), and Task3_Lab4.cpp. The code in Task2_Lab4.cpp is the same as shown in the previous block. Below the code editor is a terminal window titled "C:\Users\M.Hamzah Iqbal\OneDrive\Documents\Programming\ICT LAB TASKS\Task2_Lab4.exe". The terminal output is as follows:

```
Enter two numbers (with space after 1st number) : 4 20
Sum of Entered Numbers is : 24
-----
Process exited after 6.024 seconds with return value 0
Press any key to continue . . .
```

Question 3: Write a program that takes the radius of a circle as input and prints its area.

Code:

```
#include<stdio.h>

#include<math.h>

int main()
{
float pi=3.142;

float r,area;


printf("Enter the radius of your circle :");

scanf("%f",&r);

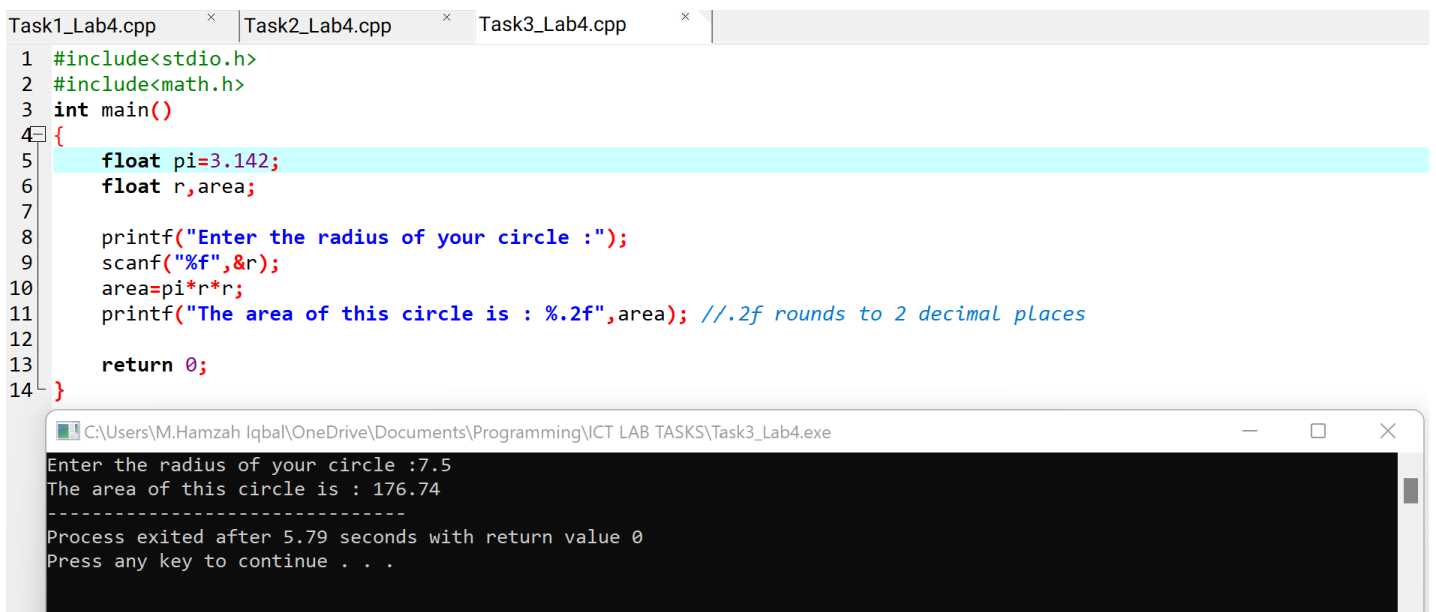
area=pi*r*r;

printf("The area of this circle is : %.2f",area);    //.2f rounds to 2 decimal places


return 0;

}
```

Output:



The screenshot shows a code editor with three tabs: Task1_Lab4.cpp, Task2_Lab4.cpp, and Task3_Lab4.cpp. The code in Task3_Lab4.cpp is as follows:

```
1 #include<stdio.h>
2 #include<math.h>
3 int main()
4 {
5     float pi=3.142;
6     float r,area;
7
8     printf("Enter the radius of your circle :");
9     scanf("%f",&r);
10    area=pi*r*r;
11    printf("The area of this circle is : %.2f",area); //.2f rounds to 2 decimal places
12
13    return 0;
14 }
```

Below the code editor is a terminal window titled "C:\Users\M.Hamzah Iqbal\OneDrive\Documents\Programming\ICT LAB TASKS\Task3_Lab4.exe". The terminal output is:

```
Enter the radius of your circle :7.5
The area of this circle is : 176.74
-----
Process exited after 5.79 seconds with return value 0
Press any key to continue . . .
```

Conclusion:

In this Lab we have learned how to use write algorithms in C and how to use its syntax. Additionally, we learned about the libraries that are used in C to compute different functions such as power and square root. We have also performed some basic calculations for understanding how C language works.