LAB 1 Programs

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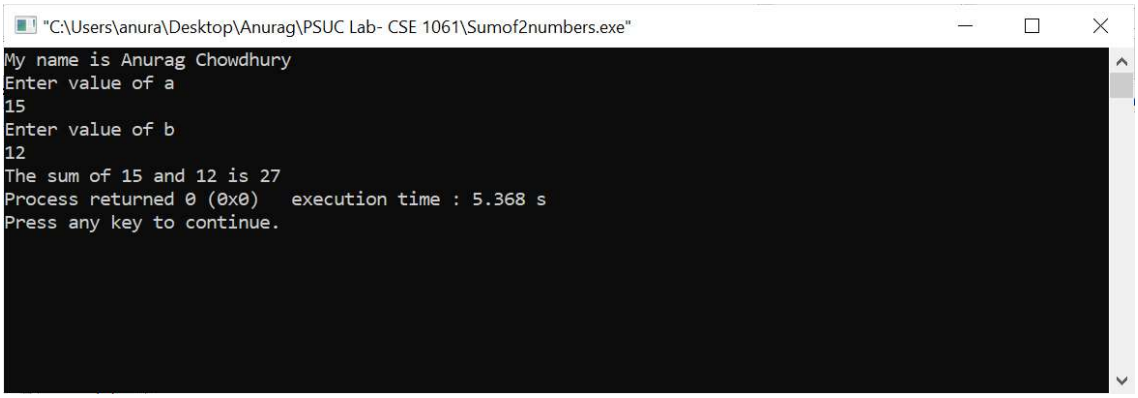
Section-M, Roll No. 22

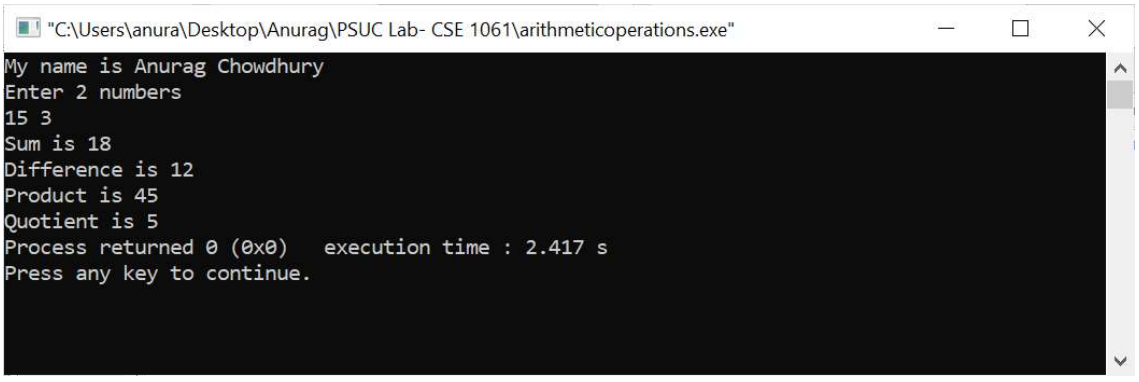
1. Write a C program to add two integers a and b read through the keyboard. Display the result using third variable sum

```
//Program to find sum of 2 numbers
#include<stdio.h>
int main(){
        int a,b,sum;
         printf("My name is Anurag Chowdhury\n");
         printf("Enter value of a\n");
         scanf("%d",&a);
         printf("Enter value of b\n");
          scanf("%d",&b);
           sum=a+b;
            printf("The sum of %d and %d is %d",a,b,sum);
          return 0;
        }
```



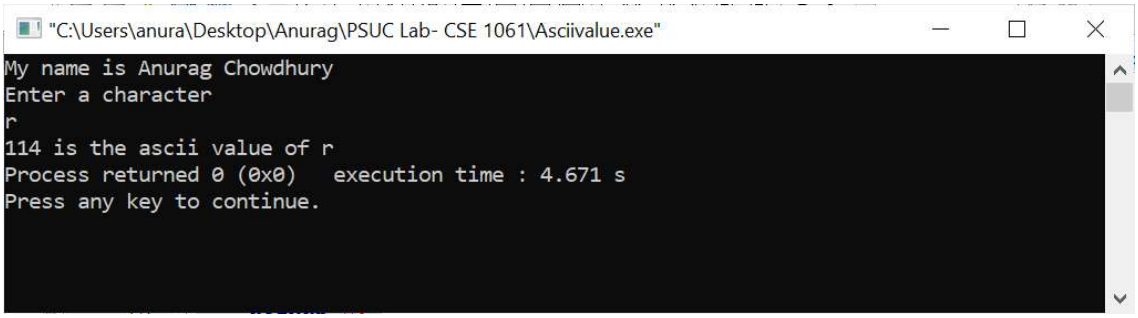
2. Write a C program to find the sum, difference, product and quotient of 2 numbers

```
//Write a C program to find the sum, difference, product and quotient of 2 numbers

#include<stdio.h>

int main(){

    printf("My name is Anurag Chowdhury\n");

    int a,b;

    printf("Enter 2 numbers\n");

    scanf("%d %d",&a,&b);

    int prod=a*b;

    int sum=a+b;

    int diff=a-b;

    int quo=a/b;

    printf("Sum is %d\nDifference is %d\nProduct is %d\nQuotient is %d",sum,diff,prod,quo);

    return 0;

}
```



3. Write a C program to print the ASCII value of a character.

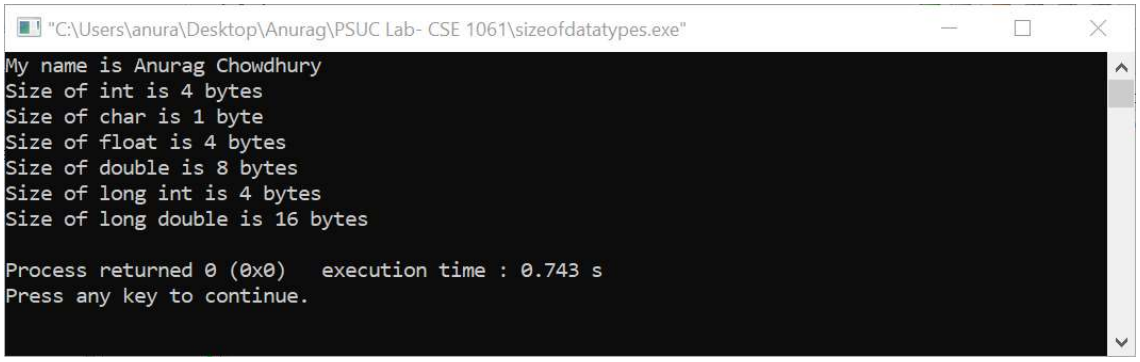
```
//Program to print the ASCII value of a character
#include<stdio.h>
int main(){
    char c;
    printf("My name is Anurag Chowdhury\n");
    printf("Enter a character\n");
    scanf("%c",&c);
    int asc=c;
    printf("%d is the ascii value of %c",asc,c);
    return 0;
}
```



4. Write a C program to display the size of the data type int, char, float, double, long int and long double using size of () operator

```
/*Write a C program to display the size of the data type int, char, float, double, long
int and long double using size of ( ) operator.*/
#include<stdio.h>
int main(){
        printf("My name is Anurag Chowdhury\n");
```

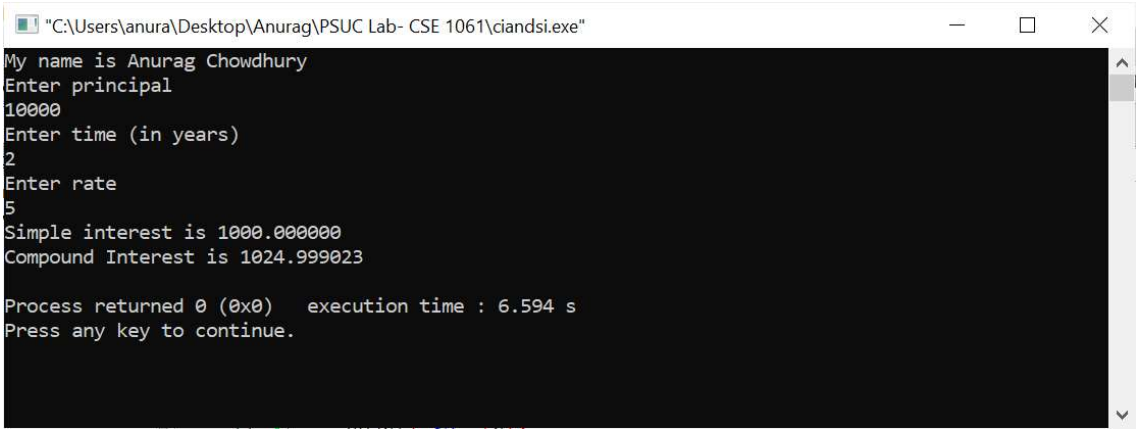
```
        printf("Size of int is %d\n",sizeof(int));
        printf("Size of char is %d\n",sizeof(char));
        printf("Size of float is %d\n",sizeof(float));
        printf("Size of double is %d\n",sizeof(double));
        printf("Size of long int is %d\n",sizeof(long int));
        printf("Size of long double is %d\n",sizeof(long double));
        return 0;
    }
```



5. Input P, N and R to compute simple and compound interest. [Hint: SI = PNR/100, CI = P(1+R/100)N -P]

```
/*Input P, N and R to compute simple and compound interest.*/
#include<stdio.h>
#include <math.h>
int main(){
        int p,n;
        float r;
        printf("My name is Anurag Chowdhury\n");
```

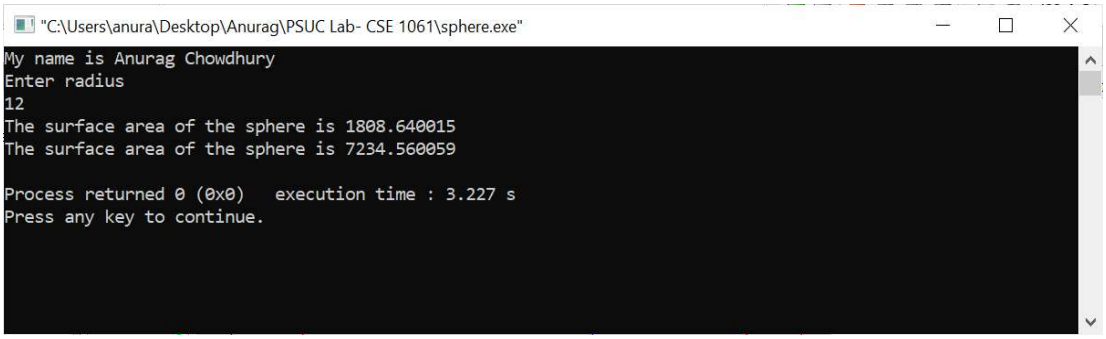
```
        printf("Enter principal\n");
        scanf("%d",&p);
        printf("Enter time (in years)");
        scanf("%d",&n);
        printf("Enter rate");
        scanf("%f",&r);
        float si=(p*n*r)/100;
        float ci=(p*pow((1+r/100),n))-p;
        printf("Simple interest is %f\n",si);
        printf("Compound Interest is %f\n",ci);
        return 0;
}
```



6. Input radius to find the volume and surface area of a sphere. [Hint: volume = (4πr3)/3, Area=4πr2]

```
//Input radius to find the volume and surface area of a sphere.
#include<stdio.h>
#include<math.h>
int main(){
        int radius;
        printf("My name is Anurag Chowdhury\n");
```

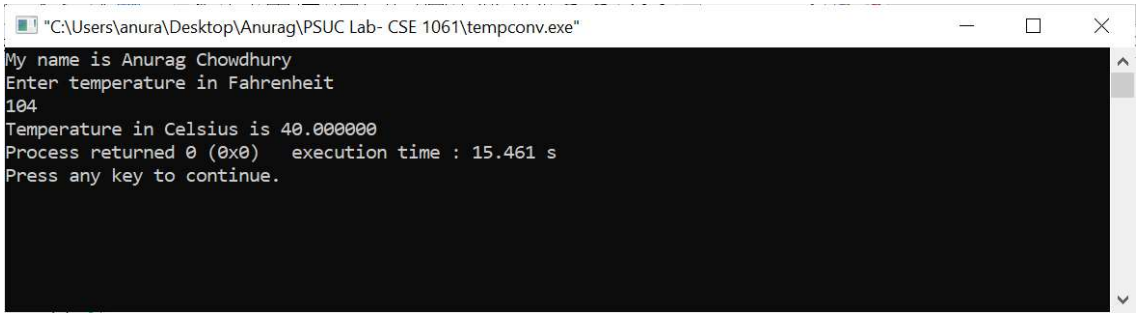
```
    printf("Enter radius\n");
    scanf("%d",&radius);
    float area=4*3.14*pow(radius,2)*1.0;
    float vol=(4*3.14*pow(radius,3)*1.0)/3;
    printf("The surface area of the sphere is %f\n",area);
    printf("The surface area of the sphere is %f\n",vol);
    return 0;
}
```



7. Convert the given temperature in Fahrenheit to Centigrade.

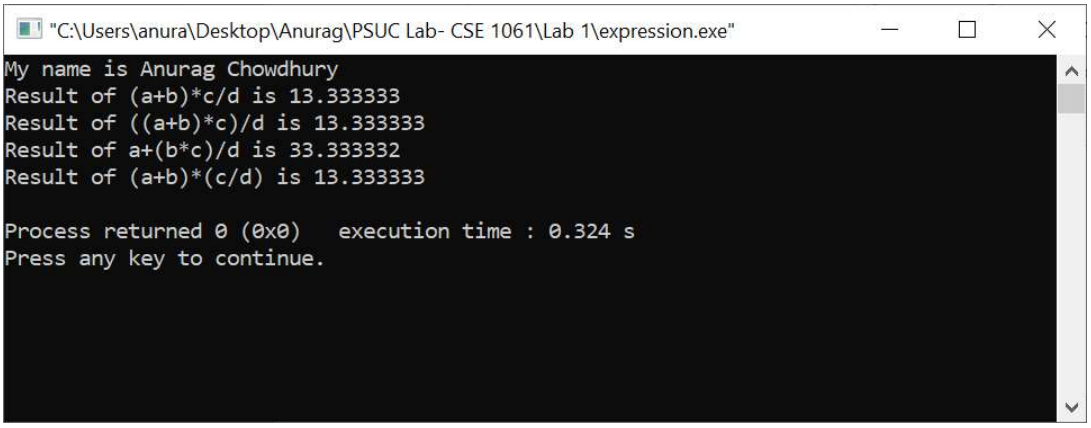
```
//Convert the given temperature in Fahrenheit to Centigrade
#include<stdio.h>
int main(){
    int ftemp;
    printf("My name is Anurag Chowdhury\n");
    printf("Enter temperature in Fahrenheit\n");
    scanf("%d",&ftemp);
    float c=(5*1.0/9)*(ftemp-32);
    printf("Temperature in Fahrenheit is %f",c);
    return 0;
```

```
}
```



8. Write a C program to evaluate the following expression for the values a = 30, b=10, c=5, d=15

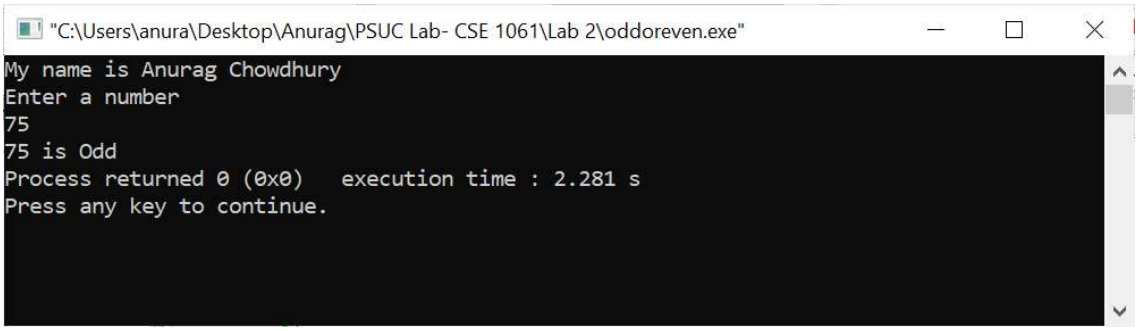
```
/*Write a C program to evaluate the following expression for the values a = 30,
b=10, c=5, d=15*/
#include<stdio.h>
int main(){
   int a=30,b=10,c=5,d=15;
   printf("My name is Anurag Chowdhury\n");
   float exp1=(a+b)*c*1.0/d;
   float exp2=((a+b)*c)*1.0/d;
   float exp3=a+(b*c)*1.0/d;
   float exp4=(a+b)*(c*1.0/d);
   printf("Result of (a+b)*c/d is %f\n",exp1);
   printf("Result of ((a+b)*c)/d is %f\n",exp2);
   printf("Result of a+(b*c)/d is %f\n",exp3);
   printf("Result of (a+b)*(c/d) is %f\n",exp4);
   return 0;
}
```


"C:\Users\anura\Desktop\Anurag\PSUC Lab- CSE 1061\Lab 1\expression.exe"
My name is Anurag Chowdhury
Result of (a+b)*c/d is 13.333333
Result of ((a+b)*c)/d is 13.333333
Result of a+(b*c)/d is 33.333332
Result of (a+b)*(c/d) is 13.333333
Process returned 0 (0x0)   execution time : 0.324 s
Press any key to continue.

LAB 2 Programs

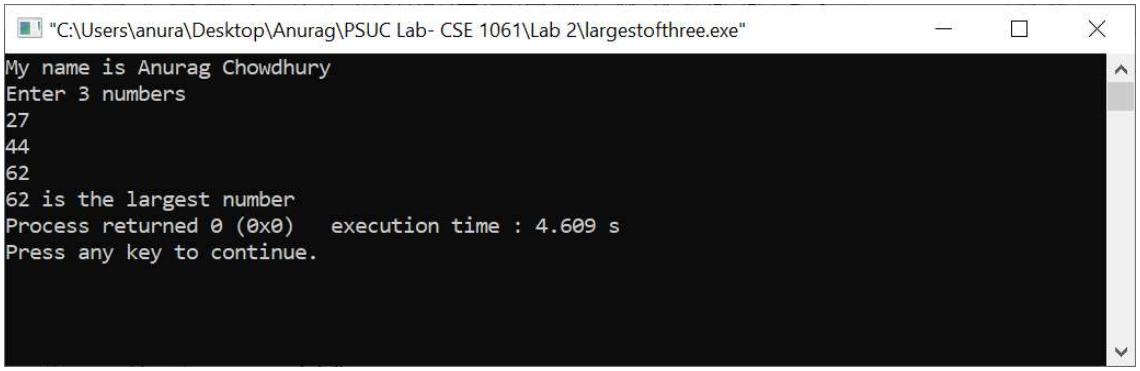
1. Check whether the given number is odd or even

```
//Check whether the given number is odd or even
#include<stdio.h>
int main(){
        int n;
        printf("My name is Anurag Chowdhury\n");
        printf("Enter a number\n");
        scanf("%d",&n);
        if(n%2==0)
           printf("%d is Even",n);
        else
           printf("%d is Odd",n);
           return 0;
}
```



2. Find the largest among given 3 numbers

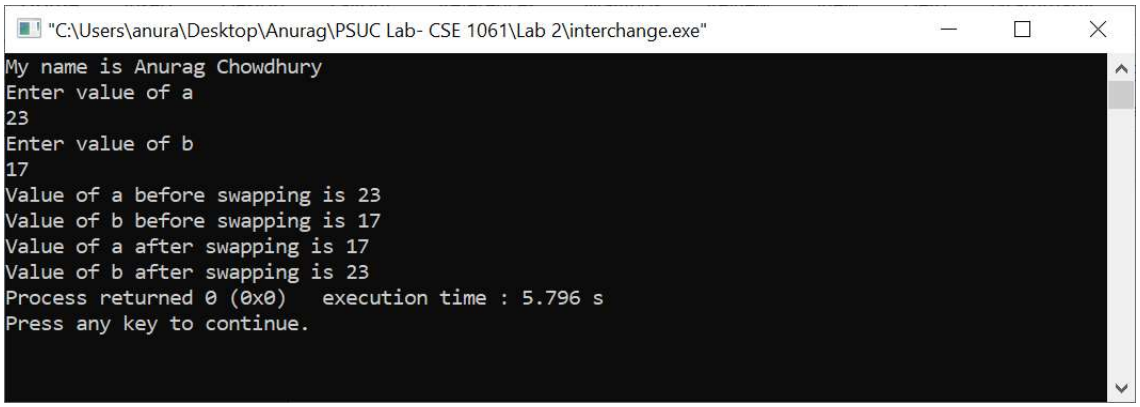
```
//Find the largest among given 3 numbers
#include<stdio.h>
int main(){
        int a,b,c;
        printf("My name is Anurag Chowdhury\n");
        printf("Enter 3 numbers\n");
        scanf("%d %d %d",&a,&b,&c);
        int max;
        if(a>=b){
           if(a>=c)
              max=a;
           else
              max=c;
        }
        else if(b>=a){
           if(c>=b)
              max=c;
           else
              max=b;
        }
        printf("%d is the largest number",max);
        return 0;
}
```



3. Swap two numbers without using third variable.

```
//Swap two numbers without using third variable.
#include<stdio.h>
int main(){
        int a,b;
        printf("My name is Anurag Chowdhury\n");
        printf("Enter value of a\n");
        scanf("%d",&a);
        printf("Enter value of b\n");
        scanf("%d",&b);
        printf("Value of a before swapping is %d\n",a);
        printf("Value of b before swapping is %d\n",b);
        a=a+b;
        b=a-b;
        a=a-b;
        printf("Value of a after swapping is %d",a);
        printf("\nValue of b after swapping is %d",b);
```

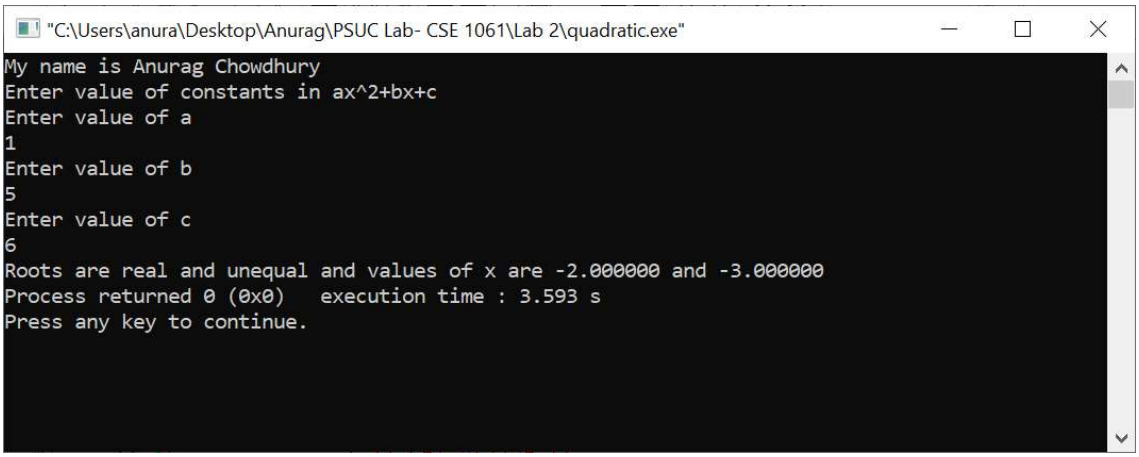
```
    return 0;
}
```



4. Compute all the roots of a quadratic equation using switch case statement.

```
//Compute all the roots of a quadratic equation using switch case statement.

#include<stdio.h>

#include<math.h>

int main(){

    int a,b,c;

    float x1,x2;

    printf("My name is Anurag Chowdhury\n");

    printf("Enter value of constants in ax^2+bx+c\n");

    printf("Enter value of a\n");

    scanf("%d",&a);

    printf("Enter value of b\n");

    scanf("%d",&b);

    printf("Enter value of c\n");

    scanf("%d",&c);
```

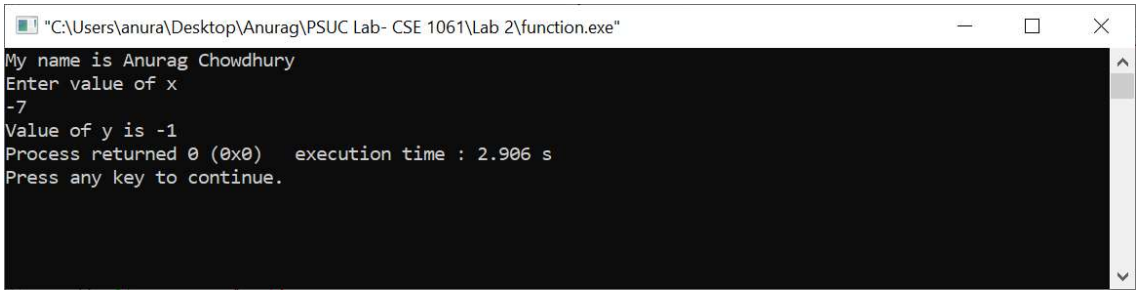
```
    float d=pow(b,2)-4*a*c;
    int flag;
    if(d<0)
      flag=1;
    else if(d>0)
      flag=2;
    else
      flag=3;
    switch(flag){
      case 1:
        printf("No real roots");
        break;
      case 2:
        x1=((-b+pow(d,0.5))*1.0)/(2*a);
        x2=((-b-pow(d,0.5))*1.0)/(2*a);
        printf("Roots are real and unequal and values of x are %f
  and %f",x1,x2);
        break;
      case 3:
        x1=((-b*1.0)/(2*a));
        printf("Roots are real and equal and its value is %f",x1);
        break;
      default:
        printf("Invalid choice");
    }
    return 0;
}
```



5. Write a program that will read the value of x and evaluate the following function(signum function)

```
//Write a program that will read the value of x and evaluate the following function(signum function)

#include<stdio.h>

int main(){

        int x,y;

        printf("My name is Anurag Chowdhury\n");

        printf("Enter value of x\n");

        scanf("%d",&x);

        if(x>0){

           y=1;

        }

        else if(x<0){

           y=-1;

        }

        else{
```

```
        y=0;
    }
    printf("Value of y is %d",y);
    return 0;
}
```



6. Find the smallest among three numbers using conditional operator.

```
//Find the smallest among three numbers using conditional operator.
#include<stdio.h>
int main(){
   int x,y,z;
   printf("My name is Anurag Chowdhury\n");
   printf("Enter values of x,y and z\n");
   printf("Enter value of x\n");
   scanf("%d",&x);
   printf("Enter value of y\n");
   scanf("%d",&y);
   printf("Enter value of z\n");
   scanf("%d",&z);
   int min=(x<y)?((x<z)?x:z):(y<z?y:z);
```

```
    printf("Smallest of %d,%d,%d is %d",x,y,z,min);
}
```