CSB Lab-2

Q1) Write a program to

a. Read two numbers, add them and display their sum

```c
#include<stdio.h>
int main()
{
    int num1, num2, sum;
    printf("Enter the first number: ");
    scanf("%d", &num1);
    printf("Enter the second number: ");
    scanf("%d", &num2);
    sum = num1+num2;
    printf("%d + %d = %d\n", num1, num2, sum);
}
```

```
PROBLEMS  OUTPUT  TERMINAL  DEBUG CONSOLE

PS G:\Nitin\Code Blocks\Calm> gcc SumI.c
PS G:\Nitin\Code Blocks\Calm> .\a.exe
Enter the first number: 21
Enter the second number: -7
21 + -7 = 14
PS G:\Nitin\Code Blocks\Calm>
```

b. Read the radius of a circle, calculate its area and display it

```c
#include<stdio.h>
#include<math.h>
int main(){
    float r, area;
    printf("Enter the radius of the circle: ");
    scanf("%f", &r);
    area = 3.14*pow(r,2);
    printf("Area of circle : %f", area);
}
```

```
PROBLEMS  OUTPUT  TERMINAL  DEBUG CONSOLE

PS G:\Nitin\Code Blocks\Calm> gcc Area.c
PS G:\Nitin\Code Blocks\Calm> .\a.exe
Enter the radius of the circle: 10
Area of circle : 314.000000
PS G:\Nitin\Code Blocks\Calm>
```

c. Evaluate the arithmetic expression ((a -b / c * d + e) * (f +g)) and display its solution. Read the values of the variables from the user through console.

```c
#include<stdio.h>
int main()
{
    float a,b,c,d,e,f,g;
    float sol;
    printf("Enter the required seven numbers: \n");
    scanf("%f %f %f %f %f %f %f", &a, &b, &c, &d, &e, &f, &g);
    sol = ((a-b/c*d+e)*(f+g));
    printf("The solution is %f", sol);
}
```

```
PROBLEMS  OUTPUT  TERMINAL  DEBUG CONSOLE

PS G:\Nitin\Code Blocks\Calm> gcc Arithmetic.c
PS G:\Nitin\Code Blocks\Calm> .\a.exe
Enter the required seven numbers:
24
4
2
8
1
1
1
The solution is 18.000000
PS G:\Nitin\Code Blocks\Calm>
```

Q2) Write a program to

a. Calculate simple and compound interest.

```c
#include<stdio.h>
#include<math.h>
int main()
{
    float p, r, t;
    float si, ci;
    printf("Enter the Principal Amount: ");
    scanf("%f", &p);
    printf("Enter the Rate Of Interest: ");
    scanf("%f", &r);
    printf("Enter the Time in yrs: ");
    scanf("%f", &t);
    si = (p*r*t)/100;
    printf("Simple Interest: %f\n", si);
    ci = p*pow((1+r/100),t) - p;
    printf("Compound Interest: %f", ci);
}
```

```
PROBLEMS   OUTPUT   TERMINAL   DEBUG CONSOLE

PS G:\Nitin\Code Blocks\Calm> gcc SI.c
PS G:\Nitin\Code Blocks\Calm> .\a.exe
Enter the Principal Amount: 27000
Enter the Rate Of Interest: 7
Enter the Time in yrs: 4
Simple Interest: 7560.000000
Compound Interest: 8391.492188
PS G:\Nitin\Code Blocks\Calm>
```

b. Find the roots of quadratic equation.

```c
#include <stdio.h>
#include <math.h>
int main() {
    double a, b, c, discriminant, root1, root2, realPart, imagPart;
    printf("Enter coefficients a, b and c: ");
    scanf("%lf %lf %lf", &a, &b, &c);
    discriminant = b * b - 4 * a * c;
    if (discriminant > 0) {
```

```
        root1 = (-b + sqrt(discriminant)) / (2 * a);
        root2 = (-b - sqrt(discriminant)) / (2 * a);
        printf("root1 = %.2lf and root2 = %.2lf", root1, root2);
    }
    else if (discriminant == 0) {
        root1 = root2 = -b / (2 * a);
        printf("root1 = root2 = %.2lf;", root1);
    }
    else {
        realPart = -b / (2 * a);
        imagPart = sqrt(-discriminant) / (2 * a);
        printf("root1 = %.2lf+%.2lfi and root2 = %.2f-%.2fi", realPart, imagPart,
realPart, imagPart);
    }
    return 0;
}
```