Assignment no.1

Name: Sukanya Maiti

Roll No. : 59

Dept.: MCA

Subject: C Programming

Submitted To: ANKUR BISWAS

1. Write a C program to find sum and average of three numbers.

Source Code:

```
#include<stdio.h>
int main()
{
  int n1,n2,n3,sum,avg;
  printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
  printf("Enter the 1st number : ");
  scanf("%d",&n1);
  printf("Enter the 2nd number : ");
  scanf("%d",&n2);
  printf("Enter the 3rd number : ");
  scanf("%d",&n3);
  sum=(n1+n2+n3);
  avg=sum/3;
  printf("The Sum and Average is %d and %d ", sum,avg);
  return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter the 1st number : 8
Enter the 2nd number : 5
Enter the 3rd number : 9
The Sum and Average is 22 and 7
```

2.Write a C program to find the sum of individual digits of a given positive integer.

Source Code:

```
 #include<stdio.h>
int main()
{
   int n,sum=0;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter a positive integer: ");
   scanf("%d",&n);
   while(n>0)
   {
      sum=sum+n%10;
      n=n/10;
   }
   printf("Sum of individual digits of the positive integer is %d",sum);
}
```

Input/Output:

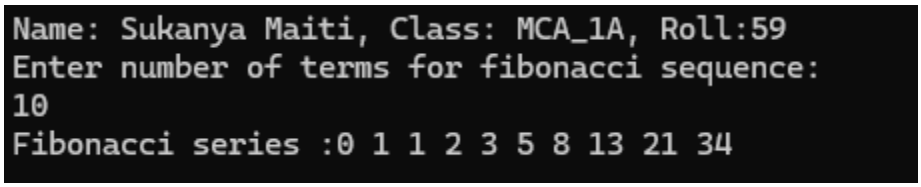
```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a positive integer: 268
Sum of individual digits of the positive integer is 16
```

3.Write a C program to generate the first n terms of the Fibonacci sequence.

Source Code:

```
#include<stdio.h>
int main()
{
	int i,n,n1,n2,n3;
	printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
	printf("Enter number of terms for fibonacci sequence: \n");
	scanf("%d",&n);
	n1=0;n2=1;
	printf("Fibonacci series :%d %d ",n1,n2);
	for(i=2;i<n;i++){
		n3=n1+n2;
		printf("%d ",n3);
		n1=n2;
		n2=n3;
	}
	printf("\n");
}
```

Input/Output:



4.Write a C program to generate Prime numbers between 1 to n.

Source Code:

```
 #include<stdio.h>
int main()
{
  int i, j, n;
  printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
  printf("Enter the number: ");
  scanf("%d", &n);
  printf("Prime numbers are: \n");
  for(i=2;i<n;i++)
  {
        int c=0;
        for(j=1;j<=i;j++)
        {
              if(i%j==0)
              {
                    c++;
              }
        }
        if(c==2)
        {
              printf("%d",i);
        }
  }
  printf("\n");
  return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter the number: 20
Prime numbers are:
235711131719
```

5.Write a C program to check whether a given number is Armstrong or not.

Source Code:

```
#include <stdio.h>
int main() {
   int n,s,c,k,r,p;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter the value of n: ");
   scanf("%d", &n);
   k=n;
   p=n;
   c=0;
   while (k!= 0)
         {
      c++;
      k=k/10;
   }
   s=0;
   while(p!=0)
   {
         r=p%10;
         s=s+r*r*r;
         p=p/10;
   }
   if(n==s)
      printf("%d is an Armstrong number.", n);
   else
      printf("%d is not an Armstrong number.", n);
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter the value of n: 153
153 is an Armstrong number.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter the value of n: 125
125 is not an Armstrong number.
```

6.Write a C program to evaluate the algebraic expression (ax+b)(ax-b).

Source Code:

```
#include<stdio.h>
int main()
{
   float a,b,x,s;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter the Values of a,b,x: ");
   scanf("%f%f%f",&a,&b,&x);
   s=(a*x+b)/(a*x-b);
   printf("The Value is : %.2f",s);
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter the Values of a,b,x: 5 2 7
The Value is : 1.12
```

7.Write a C program to check if the given number is a perfect number.

Source Code:

```
#include <stdio.h>
int main()
{
   int i, num, sum = 0;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter any number to check perfect number: ");
   scanf("%d", &num);

   for(i = 1; i <= num / 2; i++)
   {
      if(num%i == 0)
      {
         sum += i;
      }
   }
   if(sum == num && num > 0)
   {
      printf("%d is PERFECT NUMBER", num);
   }
   else
   {
      printf("%d is NOT PERFECT NUMBER", num);
   }
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any number to check perfect number: 6
6 is PERFECT NUMBER
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any number to check perfect number: 25
25 is NOT PERFECT NUMBER
```

8.Write a C program to check if a given number is a strong number.

Source Code:

```
#include <stdio.h>
int main()
{
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   int i, org_num, num, r, sum;
   long fact;
   printf("Enter a number: ");
   scanf("%d", &num);
   org_num = num;
   sum = 0;
   while(num > 0)
   {
      r= num % 10;
      fact = 1;
      for(i=1; i<=r; i++)
      {
         fact = fact * i;
      }
      sum = sum + fact;
      num = num / 10;
   }
   if(sum == org_num)
   {
      printf("%d is STRONG NUMBER", org_num);
   }
   else
   {
      printf("%d is NOT STRONG NUMBER", org_num);
   }
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a number: 145
145 is STRONG NUMBER
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a number: 14
14 is NOT STRONG NUMBER
```

9.Write a C program to print your name without using any semicolons in the program.

Source Code:

```
#include<stdio.h>

 int main()

{

 if(printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n"))

 if(printf("SUKANYA MAITI"))

 {

 }

}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
SUKANYA MAITI
```

10.Write a C program to convert temperatures in Celsius to Fahrenheit and vice-versa.

Source Code:

```
#include<stdio.h>
int main()
{
   float fahrenheit, celsius;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter the temperature in Celcius: ");
   scanf("%f", &celsius);
   fahrenheit =( (celsius*9)/5)+32;
   printf("\n\n Temperature in fahrenheit is:  %.3f \n",fahrenheit);
   printf("Enter the temperature in Fahrenheit: ");
   scanf("%f", &fahrenheit);
   celsius=((fahrenheit-32)*5/9);
   printf("\n\n Temperature in celsius is:  %.3f",celsius);
   return (0);
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter the temperature in Celcius: 39


 Temperature in fahrenheit is:  102.200
Enter the temperature in Fahrenheit: 20


 Temperature in celsius is:  -6.667
```

11.Write a C program to check whether a number is a palindrome or not.

Source Code:

```
#include<stdio.h>
int main()
{
 printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
 int n,r,sum=0,temp;
 printf("Enter a number: ");
 scanf("%d",&n);
 temp=n;
 while(n>0)
 {
  r=n%10;
  sum=(sum*10)+r;
  n=n/10;
 }
 if(temp==sum)
   printf("It is a Palindrome number ");
 else
   printf("It is not a palindrome number");
 return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a number: 121
It is a Palindrome number
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a number: 461
It is not a palindrome number
```

12.Write a C program to find maximum between two numbers.

Source Code:

```
#include <stdio.h>
int main()
{
   int n1, n2;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter two numbers: ");
   scanf("%d %d", &n1, &n2);
   if(n1>n2)
   {
      printf("%d is maximum", n1);
   }
   if(n2>n1)
   {
      printf("%d is maximum", n2);
   }
   if(n1==n2)
   {
      printf("Both are equal");
   }
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter two numbers: 67 39
67 is maximum
```

13.Write a C program to find maximum between three numbers .

Source Code:

```
#include <stdio.h>
int main()
{
  printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
  int n1, n2, n3;
  printf("Enter three different numbers: ");
  scanf("%d %d %d", &n1, &n2, &n3);
  if (n1 >= n2 && n1 >= n3)
    printf("%d is the largest number.", n1);
  if (n2 >= n1 && n2 >= n3)
    printf("%d is the largest number.", n2);
  if (n3 >= n1 && n3 >= n2)
    printf("%d is the largest number.", n3);
  return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter three different numbers: 85 39 60
85 is the largest number.
```

14.Write a C program to check whether a number is negative, positive or zero.

Source Code:

```
#include <stdio.h>
int main()
{
   int n;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter a number: ");
   scanf("%d", &n);
   if (n > 0)
      printf("%d is positive.", n);
   else if (n < 0)
      printf("%d is negative.", n);
   else if (n == 0)
      printf("%d is zero.", n);
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a number: 17
17 is positive.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a number: -30
-30 is negative.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a number: 0
0 is zero.
```

15.Write a C program to check whether a number is divisible by 5 and 11 or not within the range of 100 to 500.

Source Code:

```
#include <stdio.h>
int main()
{
   int num;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter any number: ");
   scanf("%d", &num);
   if((num % 5 == 0) && (num % 11 == 0) && (num>100 ) && (num<500))
   {
      printf("Number is divisible by 5 and 11 and in the range.");
   }
   else
   {
      printf("Number is not divisible by 5 and 11 and not in the range.");
   }
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any number: 220
Number is divisible by 5 and 11 and in the range.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any number: 215
Number is not divisible by 5 and 11 and not in the range.
--------------------------------
```

16.Write a C program to check whether a number is even or odd.

Source Code:

```
#include <stdio.h>
int main()
{
   int n;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter an integer: ");
   scanf("%d", &n);
   if(n%2 == 0)
      printf("%d is even.", n);
   else
      printf("%d is odd.", n);
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter an integer: 30
30 is even.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter an integer: 49
49 is odd.
```

17.Write a C program to check whether a year is leap year or not.

Source Code:

```
#include <stdio.h>
int main()
{
   int year;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter a year: ");
   scanf("%d", &year);
   if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))
         {
      printf("%d is a leap year.\n", year);
   }
   else
         {
      printf("%d is not a leap year.\n", year);
    }
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a year: 2024
2024 is a leap year.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a year: 1900
1900 is not a leap year.
```

18.Write a C program to check whether a character is alphabet or not.

Source Code:

```
#include <stdio.h>
int main()
{
   char c;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter a character: ");
   scanf("%c", &c);
   if ((c >= 'a' && c <= 'z') || (c >= 'A' && c <= 'Z'))
      printf("%c is an alphabet.", c);
   else
      printf("%c is not an alphabet.", c);

   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a character: S
S is an alphabet.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a character: s
s is an alphabet.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter a character: 4
4 is not an alphabet.
```

19.Write a C program to input any alphabet and check whether it is a vowel or consonant.

Source Code:

```
#include <stdio.h>
int main()
{
   char ch;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter any character: ");
   scanf("%c", &ch);
   if(ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u' ||
     ch=='A' || ch=='E' || ch=='I' || ch=='O' || ch=='U')
   {
      printf("'%c' is Vowel.", ch);
   }
   else
      printf("'%c' is Consonant.", ch);
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any character: U
'U' is Vowel.
--------------------------------
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any character: s
's' is Consonant.
--------------------------------
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any character: e
'e' is Vowel.
```

20.Write a C program to input any character and check whether it is an alphabet ,digit, or special character.

Source Code:

```
#include <stdio.h>
int main()
{
   char ch;
   printf("Name: Sukanya Maiti, Class: MCA_1A, Roll:59\n");
   printf("Enter any character: ");
   scanf("%c", &ch);
   if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
   {
      printf("'%c' is alphabet.", ch);
   }
   else if(ch >= '0' && ch <= '9')
   {
      printf("'%c' is digit.", ch);
   }
   else
   {
      printf("'%c' is special character.", ch);
   }
   return 0;
}
```

Input/Output:

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any character: T
'T' is alphabet.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any character: a
'a' is alphabet.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any character: 8
'8' is digit.
```

```
Name: Sukanya Maiti, Class: MCA_1A, Roll:59
Enter any character: #
'#' is special character.
```