



# PROGRAMING FUNDAMENTAL

## LAB 4 ASSIGNMENT

SESSION: 1E

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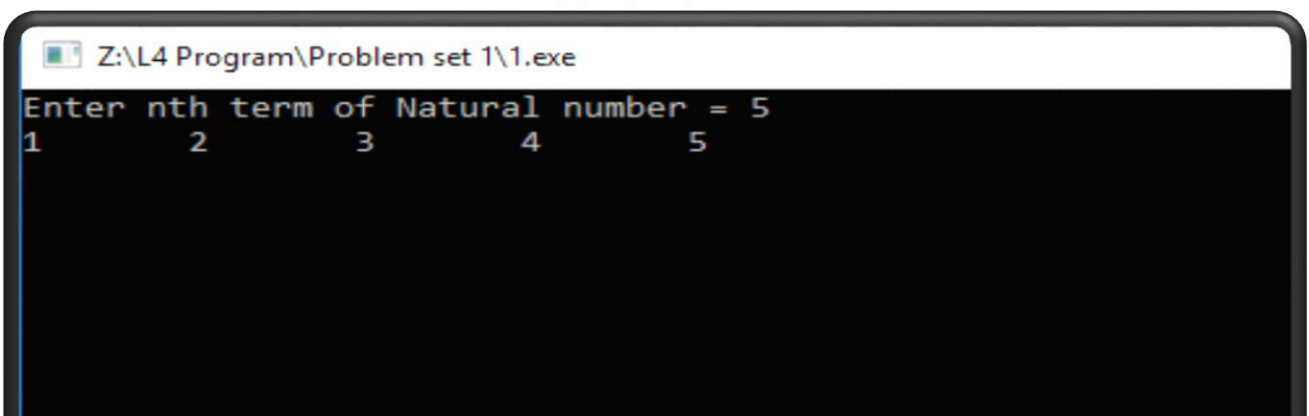
# PROBLEM SET 1

1. Write a C++ program to print all-natural numbers from 1 to n.

## Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n, i=1;
    cout<<"Enter nth term of Natural number = ";
    cin>>n;
    while(i<=n)
    {
        cout<<i<<"\t";
        i++;
    }
    getch ();
    return 0;
}
```

## Output console:



```
Z:\L4 Program\Problem set 1\1.exe
Enter nth term of Natural number = 5
1      2      3      4      5
```

2. Write a C++ program to print all-natural numbers in reverse (from n to 1).

## Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n, i=1;
    cout<<"Enter nth term of Natural number = ";
    cin>>n;
    while(n>=i)
    {
        cout<<n<<"\t";
        n--;
    }
    getch ();
    return 0;
}
```

## Output console:



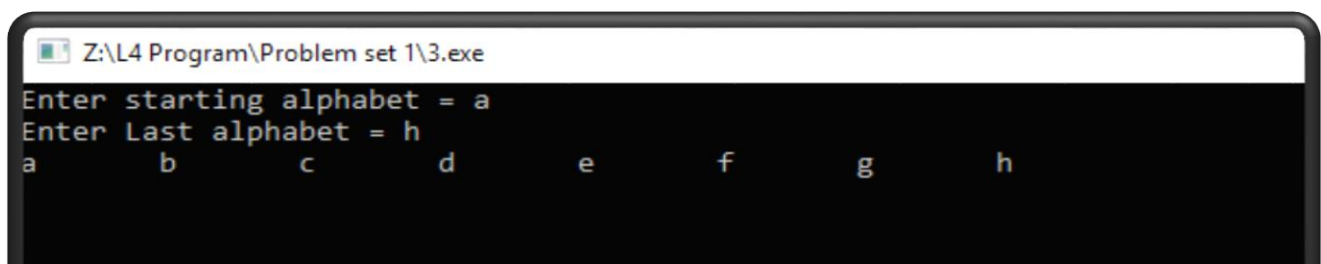
```
Z:\L4 Program\Problem set 1\2.exe
Enter nth term of Natural number = 10
10      9      8      7      6      5      4      3      2      1
```

3. Write a C++ program to print all alphabets from a to z.

## Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main()
{
    char f,l;
    cout<<"Enter starting alphabet = ";
    cin>>f;
    cout<<"Enter Last alphabet = ";
    cin>>l;
    while(f<=l)
    {
        cout<<f<<"\t";
        f++;
    }
    getch();
    return 0;
}
```

} **Output console:**



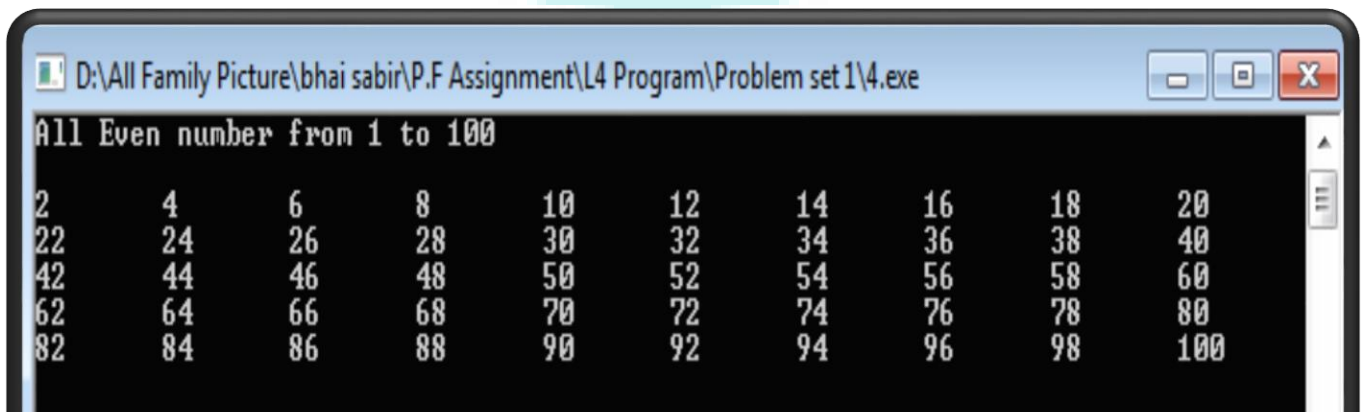
```
Z:\L4 Program\Problem set 1\3.exe
Enter starting alphabet = a
Enter Last alphabet = h
a      b      c      d      e      f      g      h
```

**4. Write a C++ program to print all even numbers between 1 to 100.**

### **Program:**

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int i=1;
    cout<<"All Even number from 1 to 100 "<<endl<<endl;
    while (i <=100)
    {
        if(i%2==0)
        {
            cout<<i<<"\t";
        }
        i++;
    }
    getch ();
    return 0;
}
```

### **Output console:**



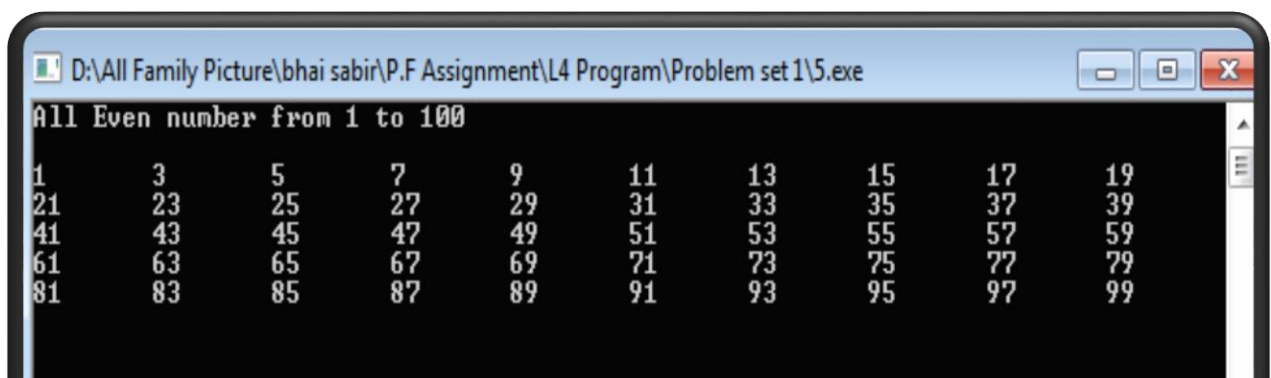
```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\Problem set 1\4.exe
All Even number from 1 to 100
2      4      6      8      10     12     14     16     18     20
22     24     26     28     30     32     34     36     38     40
42     44     46     48     50     52     54     56     58     60
62     64     66     68     70     72     74     76     78     80
82     84     86     88     90     92     94     96     98     100
```

## 5. Write a C++ program to print all odd number between 1 to 100.

### Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int i=1;
    cout<<"All Even number from 1 to 100 "<<endl<<endl;
    while(i<=100)
    {
        if(i%2==1)
        {
            cout<<i<<"\t";
        }
        i++;
    }
    getch ();
    return 0;
}
```

### Output console:



The screenshot shows a Windows command prompt window titled "D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\Problem set 1\5.exe". The output of the program is displayed on a black background with white text. It starts with the message "All Even number from 1 to 100" followed by a blank line. Then, it prints all odd numbers from 1 to 99, arranged in a grid of 5 rows and 10 columns, separated by tabs.

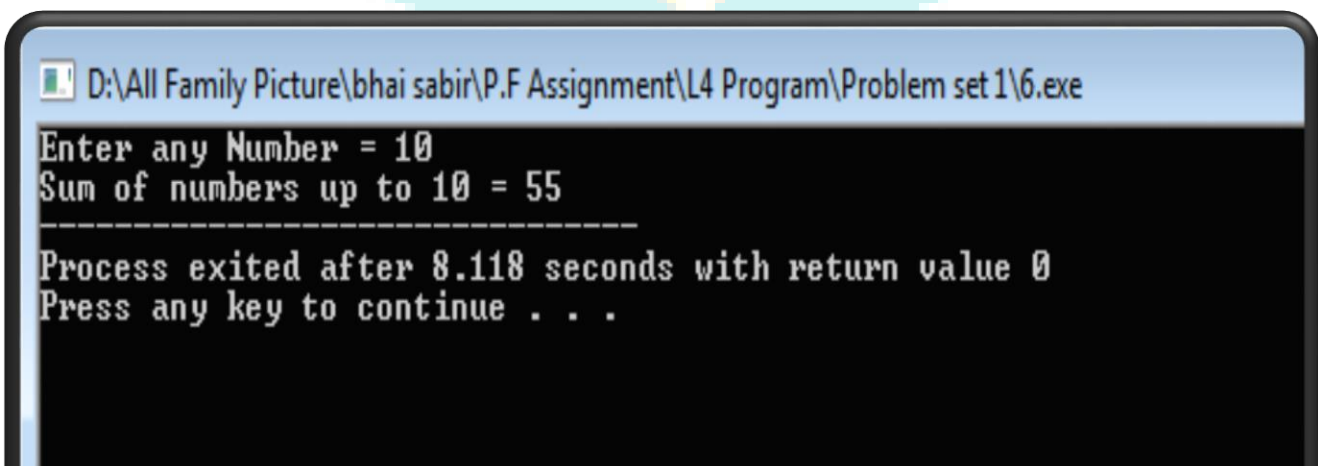
1	3	5	7	9	11	13	15	17	19
21	23	25	27	29	31	33	35	37	39
41	43	45	47	49	51	53	55	57	59
61	63	65	67	69	71	73	75	77	79
81	83	85	87	89	91	93	95	97	99

## 5. Write a C++ program to find sum of all-natural numbers between 1 to n.

### Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n1, i=1, sum=0;
    cout<<"Enter any Number = ";
    cin>>n1;
    while(i<=n1)
    {
        sum=sum+i;
        i++;
    }
    cout<<"Sum of numbers up to "<<n1<<" = "<<sum;
    getch ();
    return 0;
}
```

### Output console:



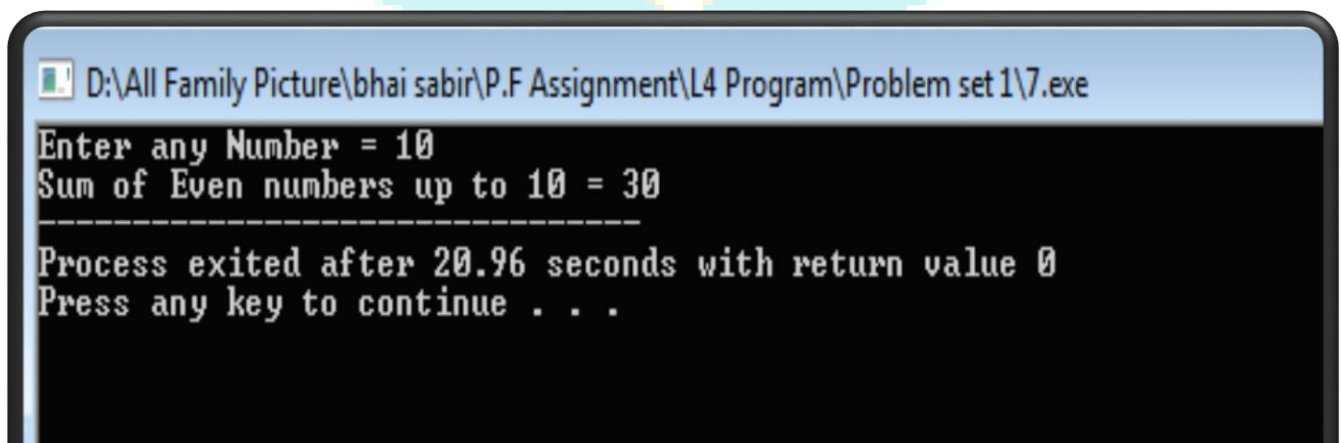
```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\Problem set 1\6.exe
Enter any Number = 10
Sum of numbers up to 10 = 55
-----
Process exited after 8.118 seconds with return value 0
Press any key to continue . . .
```

**7. Write a C++ program to find sum of all even numbers between 1 to n.**

### Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n1, i=2, sum=0;
    cout<<"Enter any Number = ";
    cin>>n1;
    while(i<=n1)
    {
        if(i%2==0)
        {
            sum=sum+i;
        }
        i++;
    }
    cout<<"Sum of Even numbers up to "<<n1<<" = "<<sum;
    getch ();
    return 0;
}
```

### Output console:



```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\Problem set 1\7.exe
Enter any Number = 10
Sum of Even numbers up to 10 = 30
-----
Process exited after 20.96 seconds with return value 0
Press any key to continue . . .
```



## Problem set 2

1. Write a C+ program to find sum of all odd numbers between 1 to n.

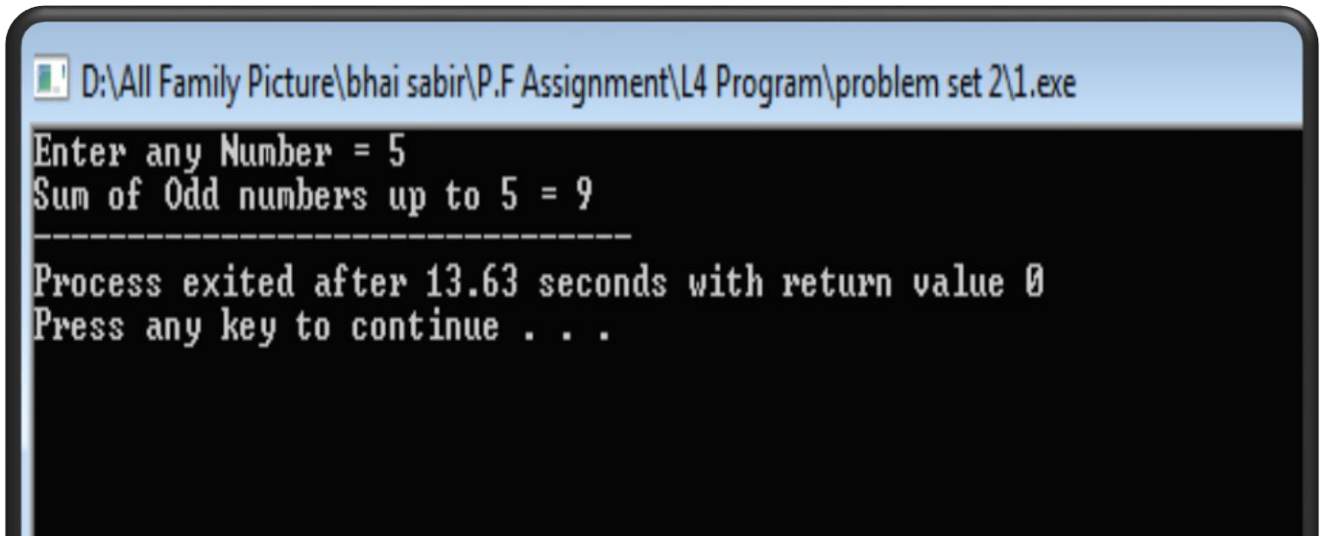
**Program:**

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n1, i=1, sum=0;
    cout<<"Enter any Number = ";
    cin>>n1;
    while(i<=n1)
    {
        if(i%2==1)
        {
            sum=sum+i;
        }

        i++;
    }
    cout<<"Sum of Odd numbers up to "<<n1<<" = "<<sum;
    getch ();
    return 0;
```

}

## Output console:



```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\problem set 2\1.exe
Enter any Number = 5
Sum of Odd numbers up to 5 = 9
-----
Process exited after 13.63 seconds with return value 0
Press any key to continue . . .
```

**2. Write a C++ program to print multiplication table of any number.**

### Program:

```
#include<iostream>

#include<conio.h>

using namespace std;

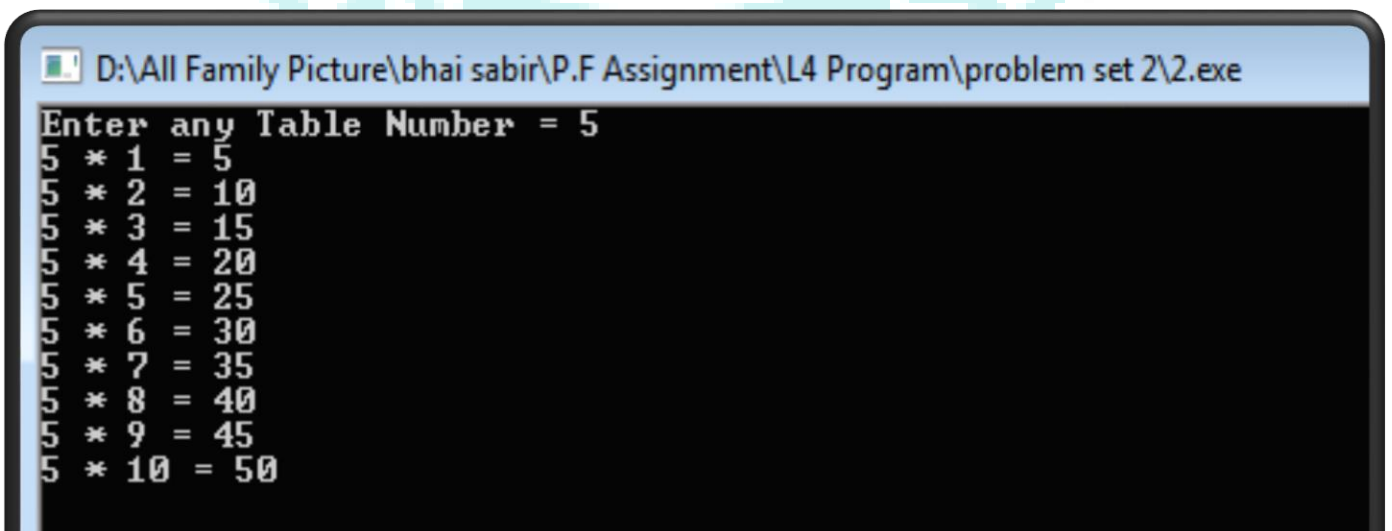
int main ()

{

    int n1, i=1;
```

```
cout<<"Enter any Table Number = ";  
  
cin>>n1;  
  
while(i<=10)  
{  
  
    cout<<n1<<" * "<<i<<" = "<<n1*i<<endl;  
  
    i++;  
  
}  
  
getch ();  
return 0;  
}
```

Output console:



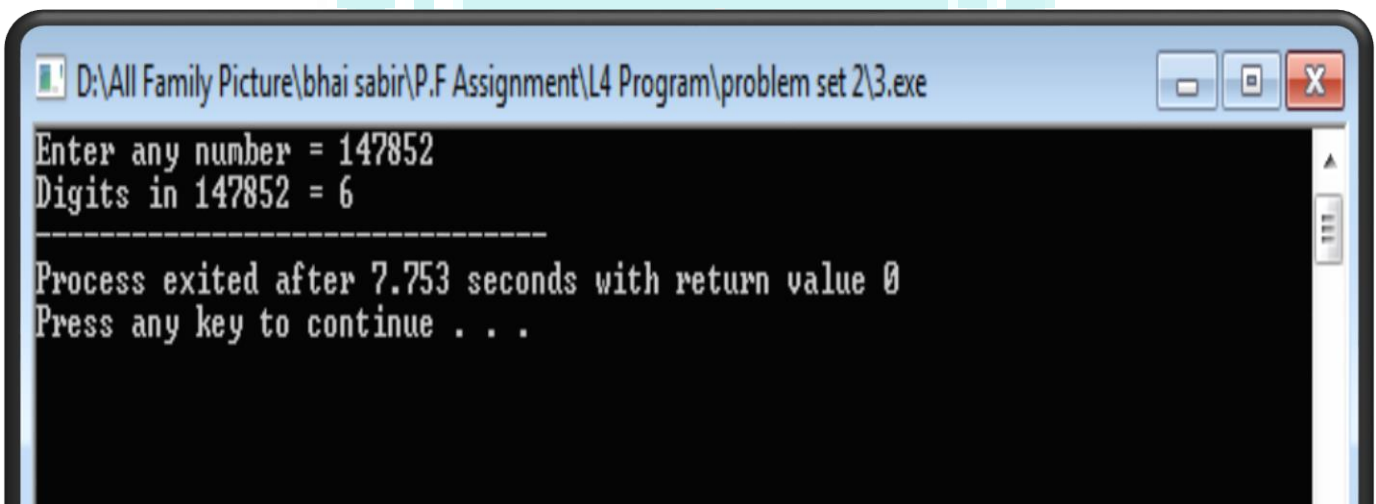
```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\problem set 2\2.exe  
Enter any Table Number = 5  
5 * 1 = 5  
5 * 2 = 10  
5 * 3 = 15  
5 * 4 = 20  
5 * 5 = 25  
5 * 6 = 30  
5 * 7 = 35  
5 * 8 = 40  
5 * 9 = 45  
5 * 10 = 50
```

### 3. Write a C++ program to count number of digits in a number.

#### Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n1, n, l=0;
    cout<<"Enter any number = ";
    cin>>n1;
    n=n1;
    while (n1!=0)
    {
        n1=n1/10;
        l++;
    }
    cout<<"Digits in "<<n<<" = "<<l;
    getch ();
    return 0;
}
```

#### Output console:



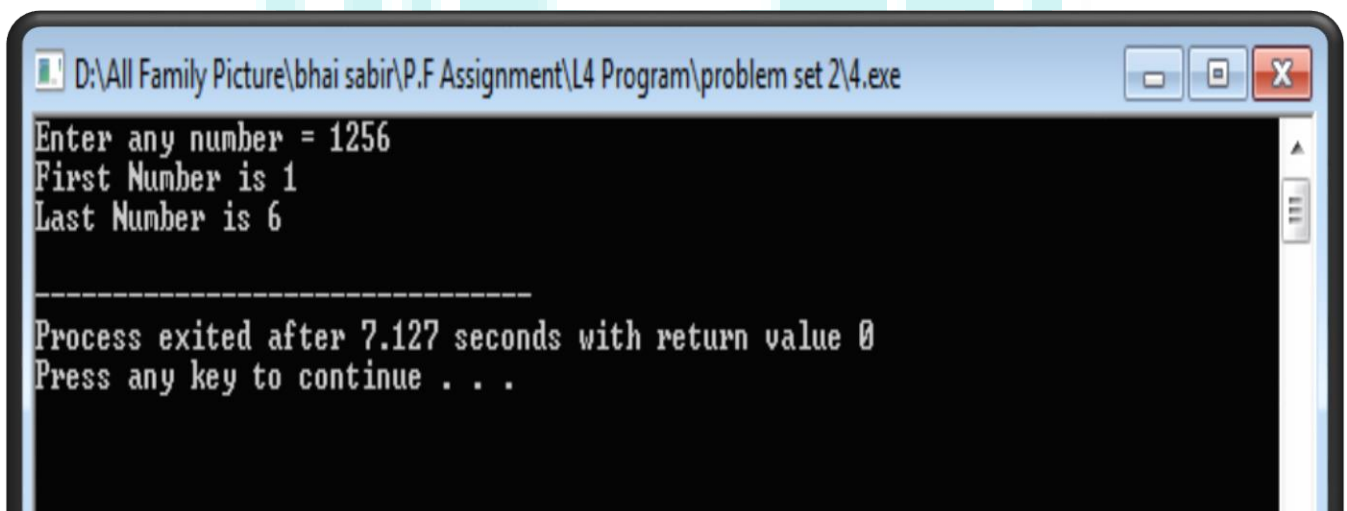
```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\problem set 2\3.exe
Enter any number = 147852
Digits in 147852 = 6
-----
Process exited after 7.753 seconds with return value 0
Press any key to continue . . .
```

## 4. Write a C++ program to find first and last digit of a number.

### Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n1, l, sum;
    cout<<"Enter any number = ";
    cin>>n1;
    l=n1%10;
    while(n1>9)
    {
        n1=n1/10;
    }
    cout<<"First Number is "<<n1<<endl;
    cout<<"Last Number is "<<l<<endl;
    getch ();
    return 0;
}
```

### Output console:



```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\problem set 2\4.exe
Enter any number = 1256
First Number is 1
Last Number is 6

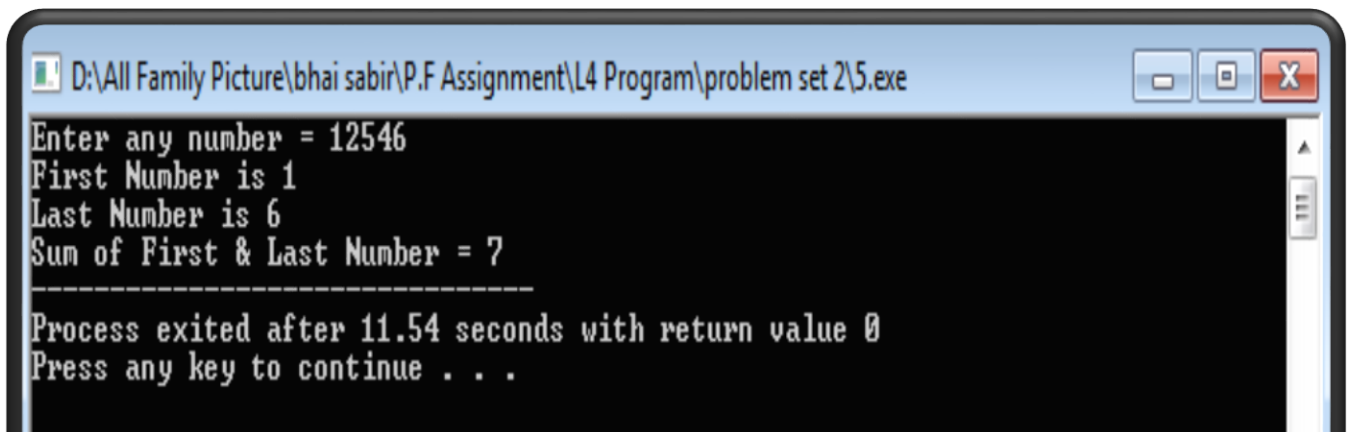
-----
Process exited after 7.127 seconds with return value 0
Press any key to continue . . .
```

## 6. Write a C++ program to find sum of first and last digit of a number.

### Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n1, l, sum;
    cout<<"Enter any number = ";
    cin>>n1;
    l=n1%10;
    while(n1>9)
    {
        n1=n1/10;
    }
    cout<<"First Number is "<<n1<<endl;
    cout<<"Last Number is "<<l<<endl;
    sum=l+n1;
    cout<<"Sum of First & Last Number = "<<sum;
    getch ();
    return 0;
}
```

## Output console:



```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\problem set 2\5.exe
Enter any number = 12546
First Number is 1
Last Number is 6
Sum of First & Last Number = 7
-----
Process exited after 11.54 seconds with return value 0
Press any key to continue . . .
```

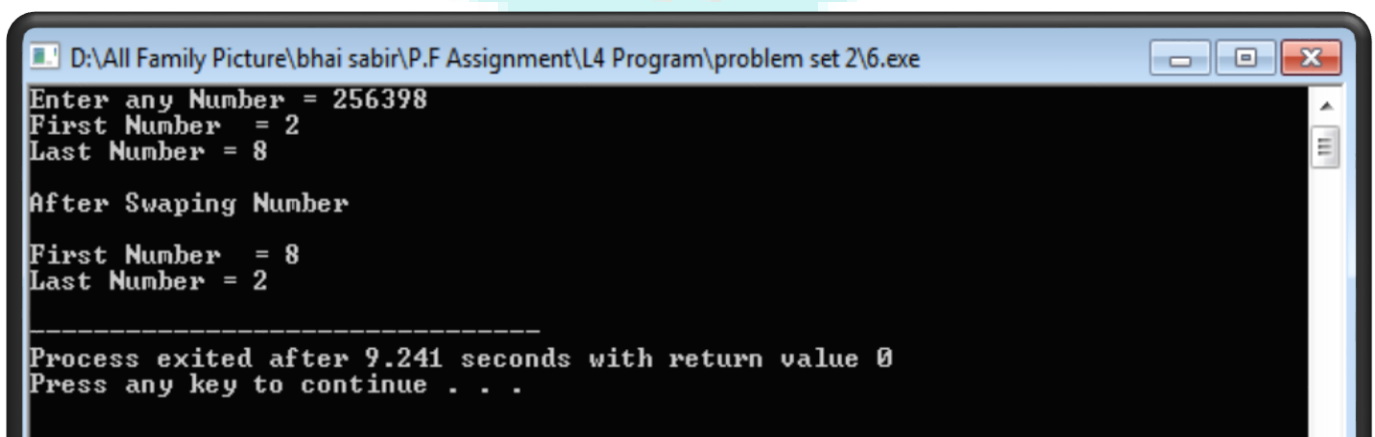
**6. Write a C++ program to swap first and last digits of a number.**

### Program:

```
#include<iostream>
#include<conio.h>
using namespace std;
int main ()
{
    int n, l, f, s, fn;
    cout<<"Enter any Number = ";
    cin>>n;
    l=n%10;
    while(n>9)
```

```
{  
    n=n/10;  
}  
f=n;  
cout<<"First Number = "<<f<<endl;  
cout<<"Last Number = "<<l<<endl;  
cout<<endl<<"After Swaping Number "<<endl<<endl;  
s=f;  
f=l;  
l=s;  
cout<<"First Number = "<<f<<endl;  
cout<<"Last Number = "<<l<<endl;  
getch ();  
return 0;  
}
```

} **Output console:**



```
D:\All Family Picture\bhai sabir\P.F Assignment\L4 Program\problem set 2\6.exe  
Enter any Number = 256398  
First Number = 2  
Last Number = 8  
  
After Swaping Number  
First Number = 8  
Last Number = 2  
  
-----  
Process exited after 9.241 seconds with return value 0  
Press any key to continue . . .
```