ME15

FOP

Manual 4

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ME15
Section C

LAB TASKS

TASK 01

1. Write a program in C++ to find the sum of first 10 natural numbers.

SOLUTION:

```
#include <iostream>

using namespace std;

int main() {

   int sum = 0, number;

   cout << "Enter the 10 natural numbers:" << endl;

   for (int i = 0; i < 10; i++) {

   cin >> number;

   sum += number;

   }

   cout << "The sum of the 10 natural numbers is " << sum;

  return 0;

}
```

```
Enter the 10 natural numbers:
1
2
3
4
5
6
7
8
9
0
The sum of the 10 natural numbers is 45
--------------------------------
Process exited after 9.367 seconds with return value 0
Press any key to continue . . .
```

TASK 02

2. Write a C++ program to Print a Table of any Number.

Solution:

```
#include <iostream>
using namespace std;
int main(){
        int n, i;
        cout<<"Enter a number: ";
        cin>>n;
        do{
         cout<< n << "*" << i << "=" << n*i <<" ";
        i++;
        }
        while(i<11);
        return 0;
}
```

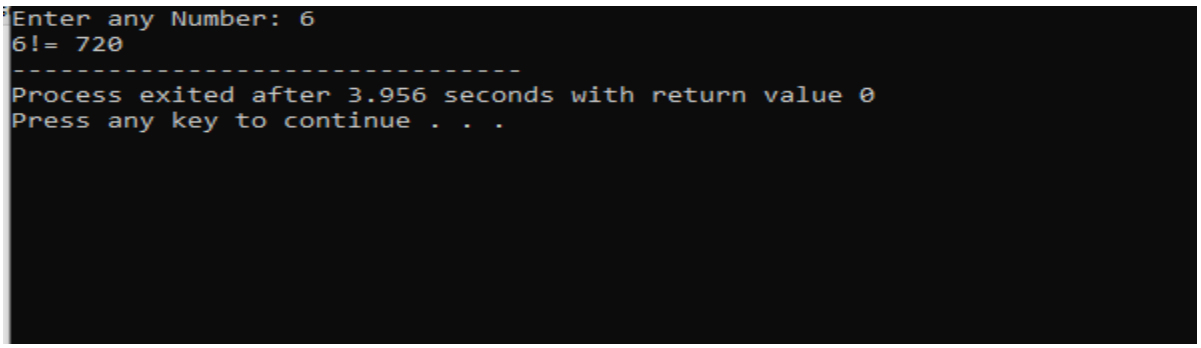
```
Enter a number: 4
4*0=0 4*1=4 4*2=8 4*3=12 4*4=16 4*5=20 4*6=24 4*7=28 4*8=32 4*9=36 4*10=40
--------------------------------
Process exited after 10.4 seconds with return value 0
Press any key to continue . . .
```

TASK 03

Write a Program to Generate Factorial. A Certain Number Factorial of any number is the product of an integer and all the integers below it for example factorial of 4 is: 4! = 4 * 3 * 2 * 1 = 24.

Solution:

```
#include <iostream>

using namespace std;

int main()

{

 int i,factorial=1,number;

 cout<<"Enter any Number: ";

 cin>>number;

 if(number<0){

          cout<<"factorial cannot be calculated.";

 }

 else{

 for(i=1;i<=number;i++){

  factorial=factorial*i;

 }

 cout<<number<<"!= "<<factorial;

}

   return 0;

}
```



TASK 04

Write a C++ program to generate a Fibonacci sequence up to a certain number input by the user.

Solution:

```
#include <iostream>

using namespace std;


int main() {
   int num, first = 0, second = 1, next;


   cout << "Enter the number of terms: ";
   cin >> num;


   cout << "Fibonacci Series: ";


   for (int i = 0; i < num; i++) {
      cout << first << " ";


      next = first + second;
      first = second;
      second = next;
   }


   return 0;
}
```

```
/tmp/f04om1JG3j.o
Enter the number of terms: 8
Fibonacci Series: 0 1 1 2 3 5 8 13
```