# AIM: Implement and analyze algorithms given below 1 Factorial (Iterative and Recursive).

**PROGRAM(Iterative):**

#include <iostream>

using namespace std;

int main()

{

int i,fact=1,number,counter=0;

cout<<"Enter any Number: ";

cin>>number;

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

fact=fact\*i;

counter++;

}

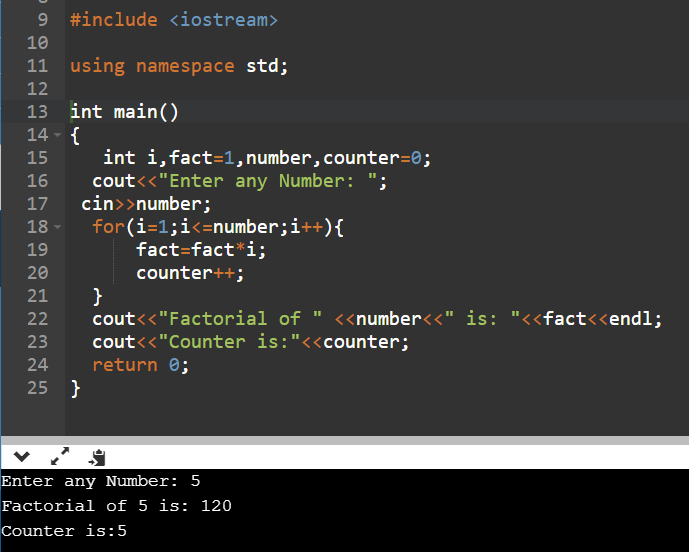
cout<<"Factorial of " <<number<<" is: "<<fact<<endl;

cout<<"Counter is:"<<counter;

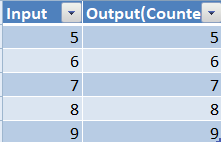
return 0;

}

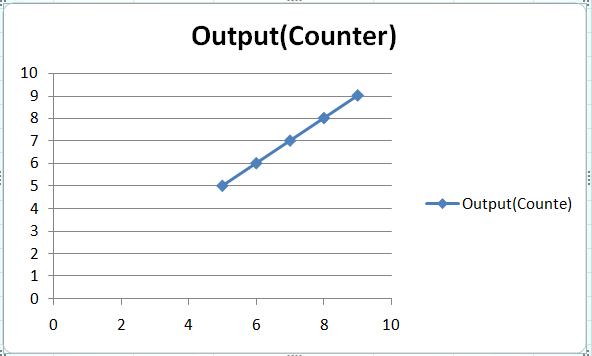
**OUTPUT:**

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**ANALYSIS TABLE:**

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**GRAPH:**

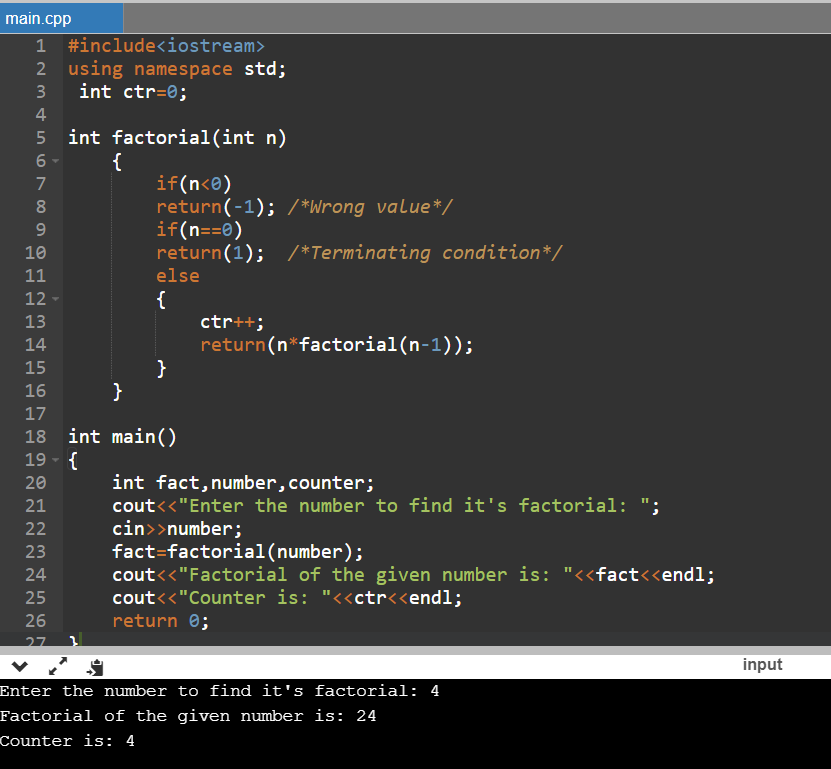
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**CONCLUSION:** I Implemented and analyzed algorithms given below 1 Factorial using iterative method.

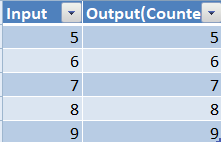
**PROGRAM(Recursive):**

#include<iostream>  
using namespace std;  
 int ctr=0;  
  
int factorial(int n)  
    {  
        if(n<0)  
        return(-1); /\*Wrong value\*/  
        if(n==0)  
        return(1);  /\*Terminating condition\*/  
        else  
        {  
            ctr++;  
            return(n\*factorial(n-1));  
        }  
    }  
  
int main()  
{  
    int fact,number,counter;  
    cout<<"Enter the number to find it's factorial: ";  
    cin>>number;  
    fact=factorial(number);  
    cout<<"Factorial of the given number is: "<<fact<<endl;  
    cout<<"Counter is: "<<ctr<<endl;  
    return 0;  
}

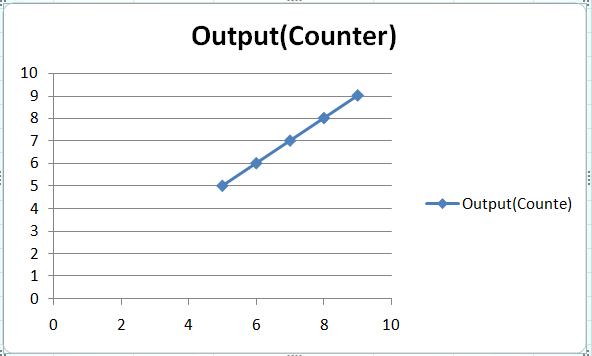
**OUTPUT:**



**ANALYSIS TABLE:**

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**GRAPH:**



**CONCLUSION:** I Implemented and analyzed algorithms given below 1 Factorial using Recursive method.