

School Of Mechanical & Manufacturing Engineering, NUST

Department of Mechanical Engineering



CS-114 - Fundamentals of Programming

Lab Manual # 4

Course Instructor: Dr Talha Shahid

Lab Instructor: Muhammad Affan

Student Name: AMINA SHAHID

CMS ID: 479106

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LAB MANUAL # 04

Lab Tasks

- CODES

// Online C++ compiler to find sum of first 10 natural numbers

```
#include <iostream>
using namespace std;
```

```
int main() {
    int i, sum;
    sum=0;
    while (i<10)
    {
        cout<<"Insert next number:";
        cin>>i;
        sum=sum+i;
    }
    cout<<"Sum:"<<sum<<endl;

    return 0;
}
```

// Online C++ compiler to output multiplication table

```
#include <iostream>
using namespace std;
```

```
int main() {
    int num1;
    cout<<"Insert integer:";
    cin>>num1;
    for (int i=0;i<=10;i++)
    {
        cout<<num1<<"*"<<i<<"="<<num1*i<<endl;
    }
    return 0;
}
```

// Online C++ compiler to output the factorial of a number

```
#include <iostream>
using namespace std;
```

```
int main() {
    int a,f;
    cout<<"Insert Number:"<<endl;
    cin>>a;
    f=a;
    if (a==0)
```

```

    cout<<a<<"!"<<"="<<"1";
    else if (a>0)
    {
        for(int i=(a-1);i>=1;i--)
        {
            f=f*i;
        }
        cout<<a<<"!"<<"="<<f;
    }
    else if (a<0)
    {
        cout<<"error";
    }

    return 0;
}

```

// Online C++ compiler to run Fibonacci sequence

```

#include <iostream>
using namespace std;

```

```

int main() {
    int a,b,x,s=0;
    cout<<"Insert first number:";
    cin>>a;
    cout<<"Insert second number:";
    cin>>b;
    cout<<"Enter total terms to be printed:"<<endl;
    cin>>x;
    cout<<a<<" "<<b<<" ";
    for (int n=2;n<=x;n++)
    {
        s=a+b;
        a=b;
        b=s;
        cout<<s<<" ";
    }
    return 0;
}

```

- **OUTPUTS**

<div>Output</div> <div>Clear</div> <pre>/tmp/DYELc85ucG.o Insert Number: 8 8!=40320</pre>	<div>Output</div> <div>Clear</div> <pre>/tmp/QB0KuXKCfL.o Insert integer:6 6*0=0 6*1=6 6*2=12 6*3=18 6*4=24 6*5=30 6*6=36 6*7=42 6*8=48 6*9=54 6*10=60</pre>
<div>Output</div> <div>Clear</div> <pre>/tmp/MrV84sJwBQ.o Insert next number:1 Insert next number:2 Insert next number:3 Insert next number:4 Insert next number:5 Insert next number:6 Insert next number:7 Insert next number:8 Insert next number:9 Insert next number:10 Sum:55</pre>	<div>Output</div> <div>Clear</div> <pre>/tmp/nk985YImJa.o Insert first number:0 Insert second number:1 Enter total terms to be printed: 8 0,1,1,2,3,5,8,13,</pre>