

Lab Assignment 1

Yeeshukant Singh | 200002082

Q1. Write a program to print “Hello world” in C++.

Ans.

```
#include<iostream>
using namespace std;
int main(){
    cout<<"Hello world\n";
    return 0;
}
```

Output:-

```
~/My-files $ g++ assignment1.cpp
~/My-files $ ./a.out
Hello world
~/My-files $
```

Q2. Write a program to add two numbers and display the output.

Ans.

```
#include<iostream>
using namespace std;
int main(){
    int num1=0, num2=0;
    cout<<"Enter number1 : "
    cin>>num1;
    cout<<"Enter number2 : "
    cin>>num2;
    int sum=num1+num2;
    cout<<"Sum : "<<sum<<"\n";
}
```

Output:-

```
~/My-files $ g++ assignment1.cpp
~/My-files $ ./a.out
Enter number1 : 2
Enter number2 : 3
Sum : 5
```

Q3. Write a program to find the factorial of a number.

Ans:

```
#include<iostream>
using namespace std;
int main(){
    int num=5, fact=1;
    if(num==0){
        cout<<"Factorial : 1\n";
        return;
    }
```

Lab Assignment 1

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```
for(int i=num;i>0;i--){
    fact=fact*i;
}
cout<<fact<<"\n";
}

#include<iostream>
using namespace std;
int main(){
    int num=4, fact=1;
    for(int i=num;i>0;i--){
        fact=fact*i;
    }
    cout<<"Factorial : "<<fact<<"\n";
}
```

Output: (Validation by two values 5 and 4)

```
~/My-files $ g++ assignment1.cpp
```

```
~/My-files $ ./a.out
```

```
Factorial : 120
```

```
~/My-files $ g++ assignment1.cpp
```

```
~/My-files $ ./a.out
```

```
Factorial : 24
```

Q4. Write a program to implement the algorithm you wrote as part of your class assignment to find the HCF of two numbers.

Ans:

```
#include<iostream>
using namespace std;
int main(){
    int num1=0, num2=0;
    cout<<"Enter number1 : ";
    cin>>num1;
    cout<<"Enter number2 : ";
    cin>>num2;
    int itr=0, hcf=0;
    if(num1>num2)
        itr=num2;
    else
        itr=num1;
    for(int i=1; i<=itr;i++){
        if(num1%i==0 && num2%i==0)
            hcf=i;
    }
    cout<<"HCF : "<<hcf<<"\n";
}
```

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Output:-

```
~/My-files $ g++ assignment1.cpp
```

```
~/My-files $ ./a.out
```

```
Enter number1 : 2
```

```
Enter number2 : 4
```

```
HCF : 2
```

```
~/My-files $ ./a.out
```

```
Enter number1 : 5
```

```
Enter number2 : 7
```

```
HCF : 1
```

```
~/My-files $ ./a.out
```

```
Enter number1 : 4
```

```
Enter number2 : 256
```

```
HCF : 4
```

```
~/My-files $ ./a.out
```

```
Enter number1 : 41
```

```
Enter number2 : 23
```

```
HCF : 1
```