Oxford College of Engineering and Management

Lab Report

Object Oriented Programming

Course Code: CMP 215

BCA Second Year, Third Semester

Submitted To:

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Department Of BCA

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Section: A

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Lab 1

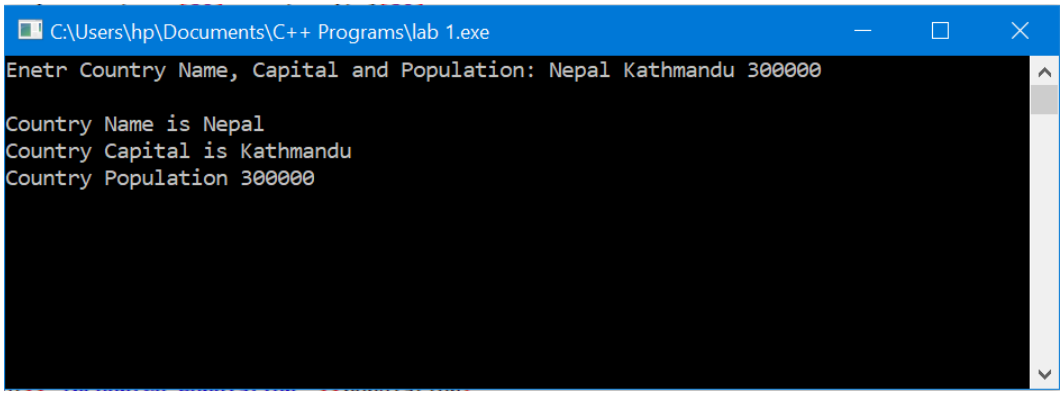
WAP to declare a class country with following member data contname, contcapital and population and with the following member function contget() and contdisp().

Note: The member functions must be defined outside of class.

```
#include<iostream>
#include<conio.h>
using namespace std;
class country
{
                        private:
                          char contname[30], contcapital[30];
                          int population;
                        public:
                          void contget();
                          void contdisp();
};
void country::contget()
{
                        cout<<"Enetr Country Name, Capital and Population: ";
                        cin>>contname>>contcapital>>population;
}
void country::contdisp()
{
                        cout<<"\nCountry Name is "<<contname;
                        cout<<"\nCountry Capital is "<<contcapital;
                        cout<<"\nCountry Population "<<population;
}
int main()
{
```

```
    country obj;
    obj.contget();
    obj.contdisp();
    getch();
    return 0;
}
```

Program Output:



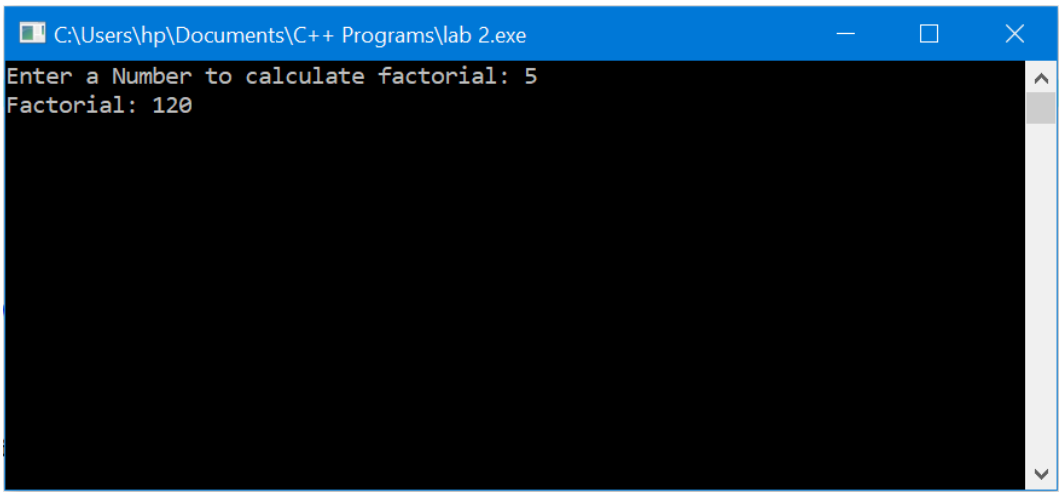
Lab 2

WAP to declare class number with the following function get(), find_fact(), display(). The get() function read a number, find_fact() function calculate the factorial of that number and display() function display the result on screen.

```
#include<iostream>
#include<conio.h>
using namespace std;
class number
{
                    private:
                      int i,num;
                    public:
                      long int fact;
                    void get()
                    {
                      cout<<"Enter a Number to calculate factorial: ";
                      cin>>num;
                    }
                    void find_fact()
                    {
                      for(i=1;i<=num;i++)
                      {
                              fact=fact*i;
                      }
                    }
                    void display()
                    {
                      cout<<"Factorial: " <<fact;
```

```
                    }
};
int main()
{
                    number obj;
                    obj.get();
                    obj.find_fact();
                    obj.display();
                    getch();
                    return 1;
}
```

Program Output:



Lab 3

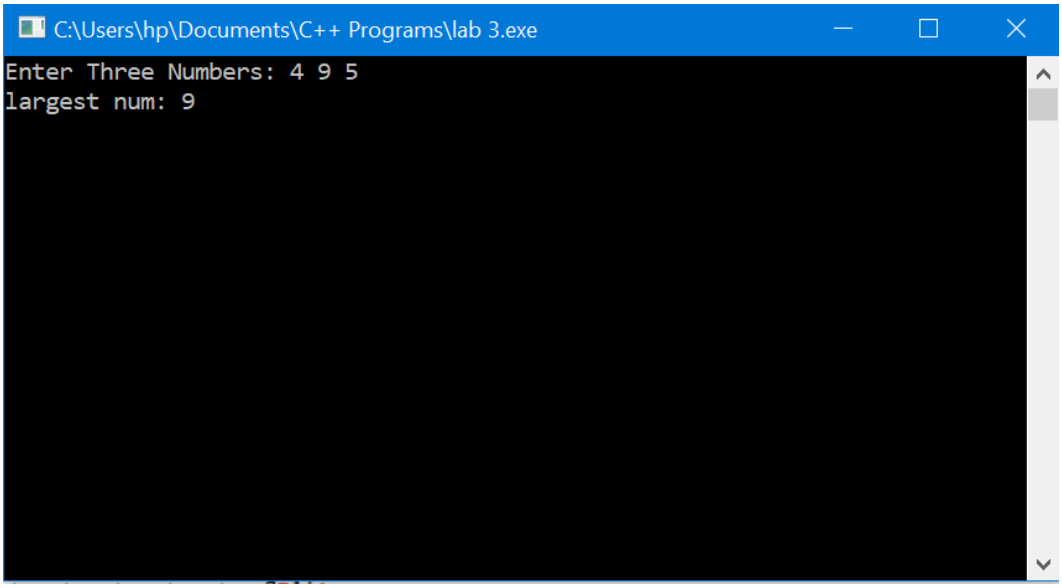
WAP to declare a class large which takes three numbers from the main function through constructor and determine the largest number.

```
#include<iostream>
#include<conio.h>
using namespace std;
class large
{
    private:
        int a,b,c;
    public:
        large()
        {
            a=b=c=0;
            }
        large(int x1,int y1, int z1)
        {
            a=x1;
            b=y1;
            c=z1;
            }
void largenum()
{
   if(a>b && a>c)
   {
       cout<<"largest num: " <<a;
       }else if(b>a && b>c)
       {
           cout<<"largest num: " <<b;
           }
```

```
        else {
            cout<<"largest num: " <<c;
            }
}
            };

main()
{
    int x1,y1,z1;
    cout<<"Enter Three Numbers: ";
    cin>>x1>>y1>>z1;
    large obj(x1,y1,z1);
    obj.largenum();
    getch();
    }
```

Program Output:


C:\Users\hp\Documents\C++ Programs\lab 3.exe
Enter Three Numbers: 4 9 5
largest num: 9

Lab 4

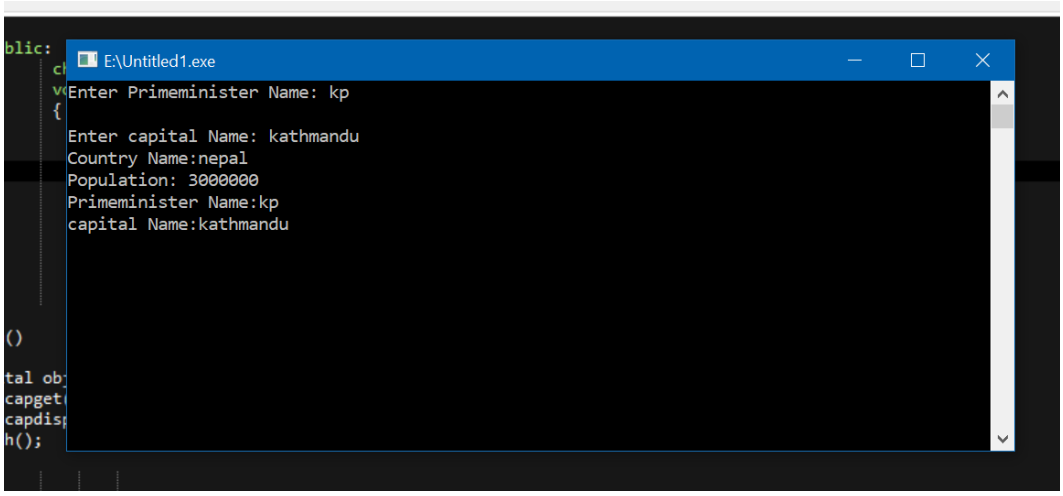
Write a program to declare a class counter which read country name and population. to create another class primeminister which reads name and display the primeminister name and this class is derived from country class. to create another class capital which is derived from primeminister class and reads and display the capital of the country.

```
#include<iostream>
#include<conio.h>
using namespace std;
class country
{
    protected:
        char cname[20];
        long int pop;
        void cget()
        {
            cout<<"Enter Country Name and Population: ";
            cin>>cname>>pop;
            }
        void cdisplay()
        {
            cout<<"Country Name:"<<cname;
            cout<<"\nPopulation: "<<pop;
            }
};
class primeminister : public country
{
    protected:
        char pname[20];
        void pget()
        {
```

```
            cget();
            cout<<"Enter Primeminister Name: ";
            cin>>pname;
            }
        void pdisplay()
        {
            cdisplay();
            cout<<"\nPrimeminister Name:"<<pname;
            }
};
class capital : public primeminister
{
    public:
        char capname[20];
        void capget()
        {
            pget();
            cout<<"\nEnter capital Name: ";
            cin>>capname;
            }
        void capdisplay()
        {
            pdisplay();
            cout<<"\ncapital Name:"<<capname;
            }
};
int main()
{
   capital obj;
   obj.capget();
```

```
    obj.capdisplay();
    getch();
}
```

Program Output:



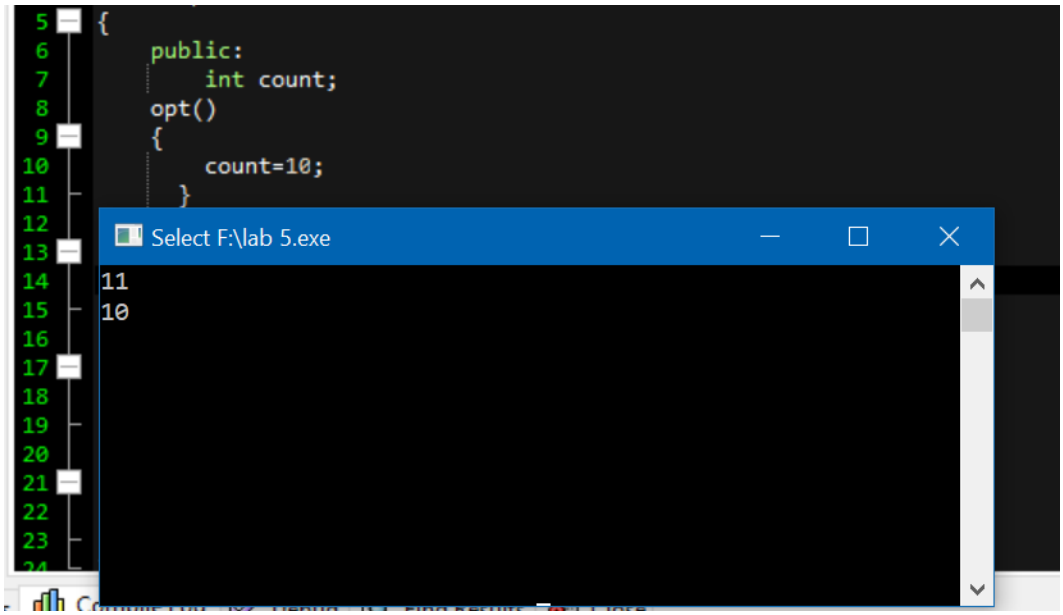
Lab 5

Write a program to overload ++ and – unary operator without using static data member.

```
#include<iostream>
#include<conio.h>
using namespace std;
class opt
{
                        public:
                        int count;
   opt()
   {
                        count=10;
     }
   void display()
   {
                        cout<<count<<"\n";
   }
   void operator ++()
   {
      count++;
   }
   void operator --()
   {
      count--;
   }
};
int main()
{
```

```
    opt obj;
    ++obj;
    obj.display();
    --obj;
    obj.display();
getch();
return 0;
}
```

Program Output:



Lab 6

Pointer to Array

```
#include<iostream>
#include<conio.h>
using namespace std;
int main()
{
   int num[5]={100,200,300,400,500};
   int i,*p;
   p=&num[0];
   for(i=0;i<5;i++)
   {
      cout<<*p<<"\n";
      p++;
   }
   getch();
   return 0;
}
```

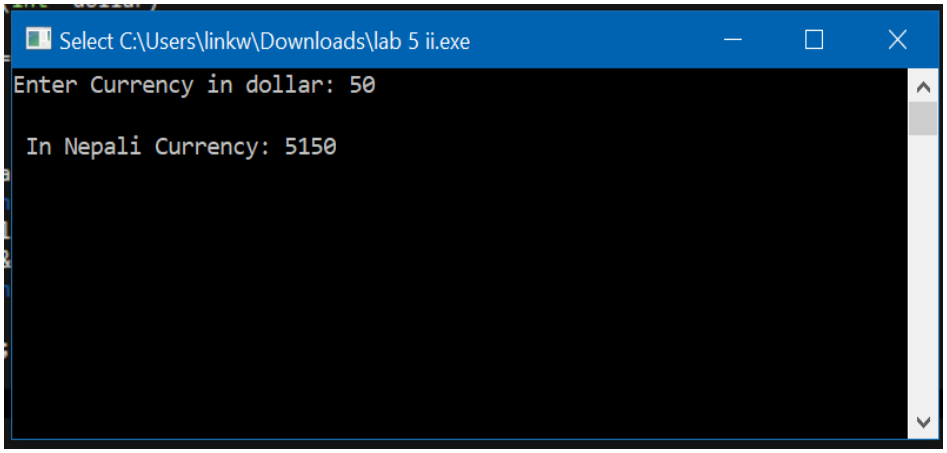
Output:

Lab 7

wap to input a currency in us Dollar and convert it into Nepalese currency by using user define function and pointer argument.

```
#include<iostream>
#include<conio.h>
using namespace std;
void convert(int *dollar)
{
    *dollar=*dollar * 103;
    }
int main()
{
   int dollar;
   cout<<"Enter Currency in dollar: ";
   cin>>dollar;
   convert(&dollar);
   cout<<"\n In Nepali Currency: "<<dollar;
   getch();
   return 0;
}
```

Output:

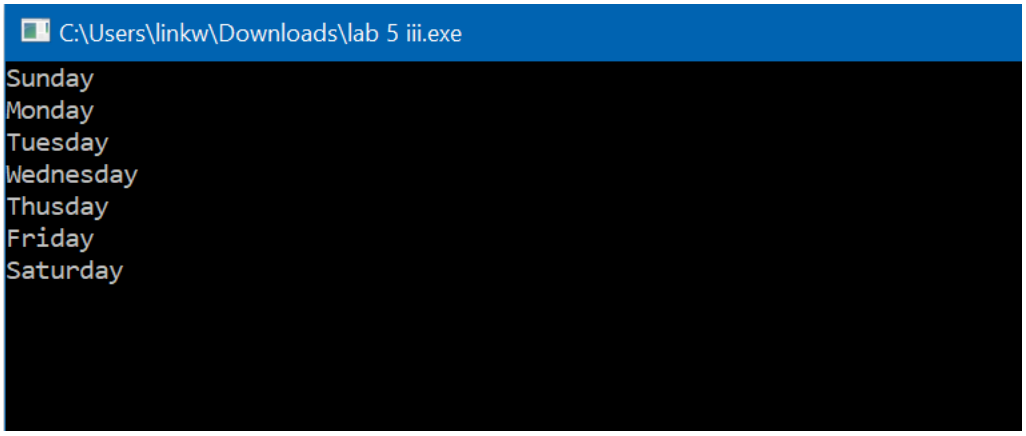

Select C:\Users\linkw\Downloads\lab 5 ii.exe
Enter Currency in dollar: 50
In Nepali Currency: 5150

Lab 8

Pointer as String

```
#include<iostream>
#include<conio.h>
using namespace std;
int main()
{
   char
*day[7]={"Sunday","Monday","Tuesday","Wednesday","Thusday","Friday","Saturday"}
;
   int i;
   for(i=0;i<7;i++)
   {
                cout<<day[i]<<"\n";
                }
   getch();
   return 0;
}
```

Output:

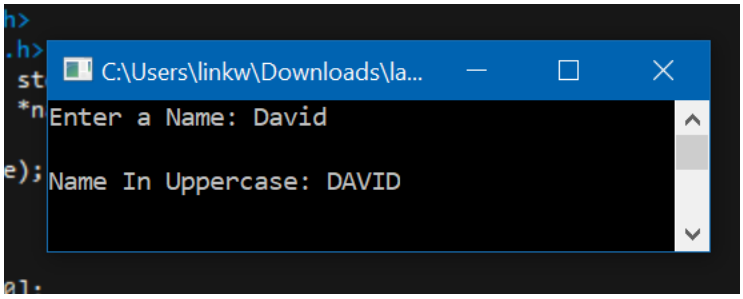


Lab 9

Write a program to input your name and display in upper case by using user defined function as a pointer string arguments.

```
#include<iostream>
#include<conio.h>
#include<string.h>
using namespace std;
void upper(char *name)
{
    strupr(name);
}
int main()
{
   char name[20];
   cout<<"Enter a Name: ";
   cin>>name;
   upper(name);
   cout<<"Name in Uppercase: "<<name;
   getch();
   return 0;
}
```

Program Output:



Lab 10

Dynamic Binding

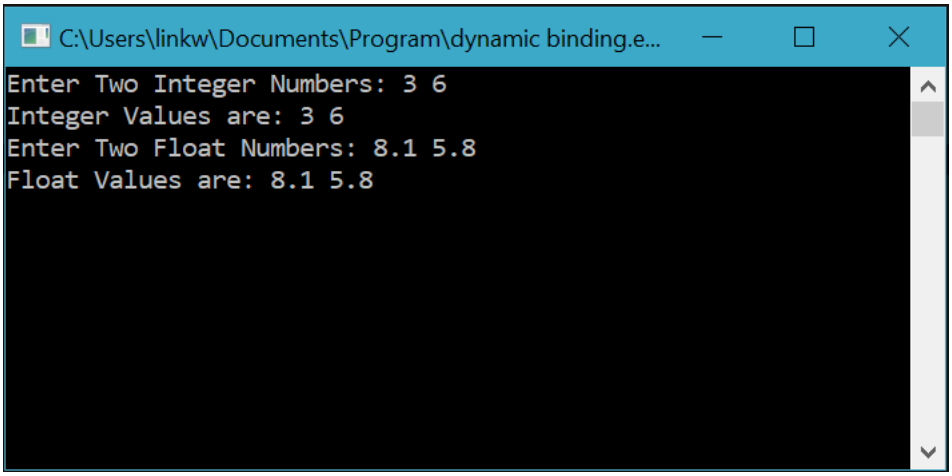
```
//dynamic binding
#include<iostream>
#include<conio.h>
using namespace std;
class dynamicParent
{
	public:
		int x,y;
		virtual void dyget()
		{
			cout<<"Enter Two Integer Numbers: ";
			cin>>x>>y;

		}
		virtual void dydisplay()
		{
			cout<<"Integer Values are: "<<x<<" "<<y;
		}
};
class dynamicChild : public dynamicParent
{
	public:
		float a,b;
		virtual void dyget()
		{
			cout<<"\nEnter Two Float Numbers: ";
			cin>>a>>b;

		}
		virtual void dydisplay()
```

```
        {
            cout<<"Float Values are: "<<a<<" "<<b;
        }
};
int main()
{
    dynamicParent *obj1,obj2;
    dynamicChild obj3;
    obj1=&obj2;
    obj1->dyget();
    obj1->dydisplay();
    //passing child class address
    obj1=&obj3;
    obj1->dyget();
    obj1->dydisplay();
    getch();
    return 0;
}
```

Program Output:


C:\Users\linkw\Documents\Program\dynamic binding.e...
Enter Two Integer Numbers: 3 6
Integer Values are: 3 6
Enter Two Float Numbers: 8.1 5.8
Float Values are: 8.1 5.8