



TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

PULCHOWK CAMPUS

DEPARTMENT OF ELECTRONICS AND COMPUTER ENGINEERING



LAB REPORT ON OBJECT ORIENTED PROGRAMMING

Bachelor's Degree in Electronics, Communication and Information Engineering
FIRST YEAR SECOND PART(I-II)

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LAB 4

TASK 1:

```
#include <iostream>
using namespace std;
#define CF 39.3700787

class CONVERSION{
private:
    float inch, foot, meter;
public:
    CONVERSION(float m){
        meter = m;
    }
    CONVERSION (){
        meter=0;
    }
    void convert(){
        int r=meter*CF;
        foot=r/12;
        inch=r%12;
    }
    void display(){
        cout<<"The result is : "<<foot<<" Foot "<< inch<<" inch";
    }
};

int main(){
    CONVERSION c;
    float n;
    cout<<"Enter the distance in meter : ";
    cin>>n;
    c=n; //c(n)
    c.convert();
    c.display();
}
```

TASK 2:

```
#include <iostream>
using namespace std;
#define CF 3.2808399

class CONVERSION{
private:
    float meter, inch, foot;
public:
    CONVERSION(float f,float i){
        foot =f;
        inch=i;
    }
    operator float(){
        meter=foot+(inch/12);
        meter =meter/ CF;
        return meter;
    }
};

int main(){
    int a,b;
    cout<<"Enter the distance in foot and inch : ";
    cin>>a>>b;
    CONVERSION c1(a,b);
    float n=float(c1); //c1.operator float()
    cout<<"The result is : "<<n;
}
```

TASK 3:

```
#include <iostream>
#include <cmath>
using namespace std;
class DESTINATION{
private:
    float theta,r;
public:
    DESTINATION(){
        theta=0;
        r=0;
    }
    DESTINATION(float t,float ra){
        theta=t;
        r=ra;
        cout<<"\nThe polar co-ordinate is : ("<<theta<<" , "<<r<<");

    }
};

class SOURCE{
private:
    float x,y;
public:
    SOURCE(float a,float b){
        x=a;
        y=b;
        cout<<"The co-ordinate is : ("<<x<<" , "<<y<<");
    }
    operator DESTINATION(){
        float t=atan(y/x);
        float r=x/cos(t);
        return DESTINATION(t,r);
    }
};

int main(){
    SOURCE s(20,30);
    DESTINATION d;
    d=s;//d=s.operator DESTINATION()
}
```

TASK 4:

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

class SOURCE{
private:
    float x,y;
public:
    SOURCE(float a,float b){
        x=a;
        y=b;
        cout<<"The co-ordinate ia : ("<<x<<" , "<<y<<")";
    }
    float xco(){
        return x;
    }
    float yco(){
        return y;
    }
};

class DESTINATION{
private:
    float theta,r,x,y;
public:
    DESTINATION(){
        theta=0;
        r=0;
    }
    DESTINATION(SOURCE s){
        x=s.xco();
        y=s.yco();
        theta =atan(y/x);
        r=x/cos(theta);
        cout<<"\nThe polar co-ordinate is : ("<<theta<<" , "<<r<<")";
    }
};

int main(){
```

```
SOURCE s(20,30);  
DESTINATION d;  
d=s;//DESTINATION(s)  
}
```