Write two classes to store distances in meter-centimeter and feet-inch system respectively. Write conversions functions so that the program can convert objects of both types.

```
#include <iostream>
using namespace std;
class Feet
{
private:
  int feet;
  int inches;
public:
  Feet(int f, int i):feet(f),inches(i){};
  Feet(float no)
  {
    feet = int (no);
    inches = int( (no - int (no)) * 12 );
  }
  float tofloat()
  {
    return float(feet + float(inches) / 12);
  }
  void display()
  {
    cout << feet << " f " << inches << " in " << endl;
  }

};
class Metric{
private:
  int meter;
  int centimeter;
public:
  Metric(int m,int cm):meter(m),centimeter(cm){};
  Metric(float no)
  {
    meter = int (no);
    centimeter = int( ( no - int(no) ) * 100) ;
  }
  Metric(Feet f)
```

```
 {
  Metric(f.tofloat() * 3.28);
 }
 void display()
 {
  cout << meter << " m " << centimeter << " cm " << endl;
 }
 float tofloat()
 {
  return float(meter + float(centimeter)/100.0);
 }
 operator Feet()
 {
  return Feet(tofloat() / 3.28);
 }
};
int main()
{
 cout << "Distance in Metric" << endl;
 Metric d(10.34);
 d.display();
 cout << "Converting into Feet" << endl;
 Feet(d).display();
 cout << "Distance in Feet" << endl;
 Feet f(20.34);
 f.display();
 cout << "Converting into Metric" << endl;
 Metric(f).display();
 return 1;
}

#include<iostream>//or
using namespace std;
class ft_in
{
   float feet,inch;
public:
   ft_in(float ft, float in)
   {
      feet=ft;
```

```
        inch=in;
    }
    ft_in()
    {
        feet=0;
        inch=0;
    }
    float get_feet()
    {
        return feet;
    }
    float get_inch()
    {
        return inch;
    }
    void display()
    {
        cout<<feet<<" feet & "<<inch<<" inch"<<endl;
    }
};
class m_cm
{
    float meter,centimeter;
public:
    m_cm(float m, float cm)
    {
        meter=m;
        centimeter=cm;
    }
    m_cm()
    {
        meter=0;
        centimeter=0;
    }
     operator ft_in()
    {
        float f,in,t,m;
        m=meter+(centimeter/100);
        t=m*3.28084;
        f=static_cast<int>(t);
```

```
    in=(t-f)*12;
    return ft_in(f,in);
  }
  m_cm(ft_in fin)
  {
    float m,cm,t,f;
    f=fin.get_feet()+(fin.get_inch()/12);
    t=0.3048*f;
    meter=static_cast<int>(t);
    centimeter=(t-meter)*100;
  }
  void display()
  {
    cout<<meter<<" meter & "<<centimeter<<" centimeter"<<endl;
  }
};
int main()
{
  m_cm a1(3,50),a2;
  ft_in b1(4,9),b2;
  b2=a1;
  a2=b1;
  b2.display();
  a2.display();
}
```