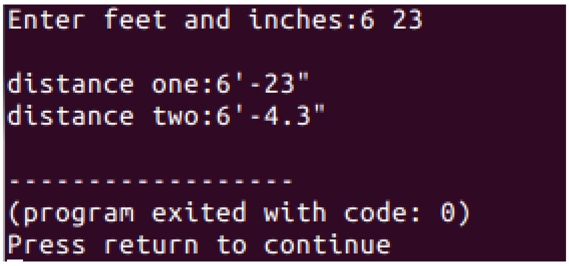
```
/* THIS C++ PROGRAM ILLUSTRATES THE CONCEPT OF
 * C++ OBJECTS AS DATA TYPES*/

/*NAME : SAGAR GIRI, ROLL NO. 205 , SECTION : A
* DATE : 21-FEB-2014*/

#include <iostream>
using namespace std;
class distances
{
        private:
                int feet;
                float inches;
        public:
                void getdistance()
                {
                        cout<<"Enter feet and inches:";
                        cin>>feet>>inches;
                }
                void setdistance(int ft,float in)
                {
                        feet = ft;
                        inches = in;
                }
                void display()
                {
                        cout<<feet<<"\'-"<<inches<<"\"";
                }
};
int main()
{
        distances d1,d2; //OBJECTS d1 & d2 AS DATA TYPES
        d1.getdistance();
        d2.setdistance(6,4.3);
        cout<<endl<<"distance one:";
        d1.display();
        cout<<endl<<"distance two:";
        d2.display();
}
```

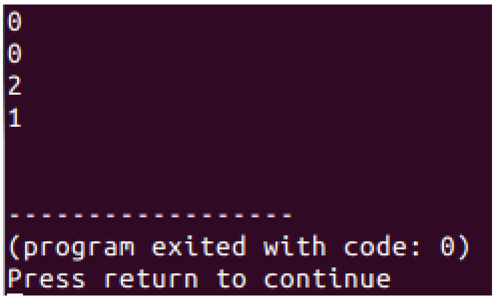
OUTPUT:



```
Enter feet and inches:6 23

distance one:6'-23"
distance two:6'-4.3"

------------------
(program exited with code: 0)
Press return to continue
```

```
/* THIS C++ PROGRAM ILLUSTRATES THE CONCEPT OF CONSTRUCTORS.
 * CONSTRUCTORS:- CONSTRUCTORS ARE THE MEMBER FUNCTION WHICH
 * HAS THE SAME NAME AS THAT OF THE CLASS, AND IS CALLED
 * AUTOMATICALLY WHENEVER THE OBJECT IS CREATED.*/

 /*NAME : SAGAR GIRI, ROLL NO. 205 , SECTION : A
* DATE : 21-FEB-2014*/

#include <iostream>
using namespace std;
class counter
{
        private:
                unsigned int count;
        public:
                counter()
                {
                        count = 0;
                }
                void increment()
                {
                        count++;
                }
                void display()
                {
                        cout<<count<<endl;
                }
};
int main()
{
        counter c1,c2;
        c1.display();
        c2.display();
        c1.increment();
        c1.increment();
        c2.increment();

        c1.display();
        c2.display();
}
```

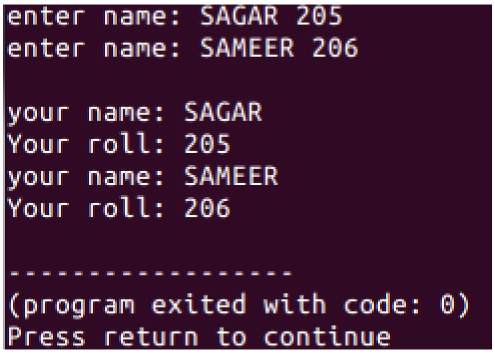
OUTPUT:



```
0
0
2
1



------------------
(program exited with code: 0)
Press return to continue
```

```
/* THIS IS A SIMPLE C++ PROGRAM ILLUSTRATES THE CONCEPT OF
 * C++ CLASS AND OBJECTS*/

 /*NAME : SAGAR GIRI, ROLL NO. 205 , SECTION : A
* DATE : 21-FEB-2014*/

#include<iostream>
using  namespace std;
class student
{
    private:
        char name[10];
        int roll;
    public:
        void getdata()
        {
            cout<<"enter name: ";
            cin>>name>>roll;
        }
        void display()
        {
            cout<<"\nyour name: " << name;
            cout<<"\nYour roll: "<<roll;
        }
};

int main()
{
    student s1,s2;
    s1.getdata();
    s2.getdata();
    s1.display();
    s2.display();
}
```

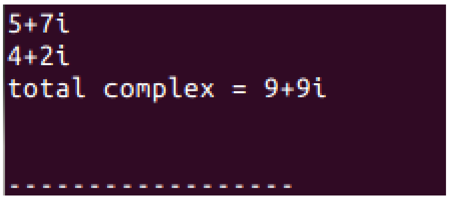
OUTPUT:



```
enter name: SAGAR 205
enter name: SAMEER 206

your name: SAGAR
Your roll: 205
your name: SAMEER
Your roll: 206

------------------
(program exited with code: 0)
Press return to continue
```

```
/*THIS C++ PROGRAM ILLUSTRATES THE CONCEPT OF DEFINING A MEMBER
 * FUNCTION OUTSIDE A CLASS*/

/*NAME : SAGAR GIRI, ROLL NO. 205 , SECTION : A
* DATE : 21-FEB-2014*/
#include <iostream>
using namespace std;
class complex
{
        private:
                int real,imag;
        public:
                complex()
                {
                        real = imag = 0;
                }
                complex(int r, int i)
                {
                        real = r;
                        imag = i;
                }
                void display();
                void addcomplex(complex, complex);
};
void complex::addcomplex(complex cc1,complex cc2)
{
        real = cc1.real+cc2.real;
        imag = cc1.imag+cc2.imag;
}
void complex::display()
{
        cout <<real<<"+"<<imag<<"i"<<endl;
}
int main()
{
        complex c1(5,7),c2(4,2),c3;
        c1.display();
        c2.display();
        c3.addcomplex(c1,c2);
        cout<<"total complex = ";
        c3.display();
}
```

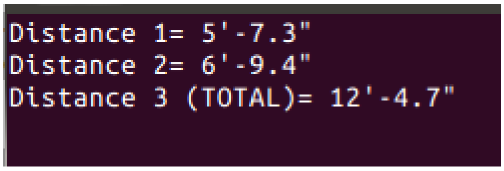
OUTPUT:



```
5+7i
4+2i
total complex = 9+9i


------------------
```

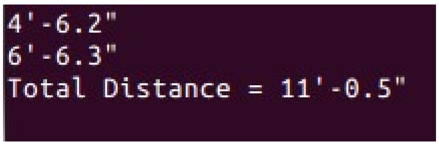
```
/*THIS C++ PROGRAM ILLUSTRATES THE CONCEPT OF OBJECTS AS
 * FUNCTION ARGUMENTS USING CONSTRUCTORS*/

 /*NAME : SAGAR GIRI, ROLL NO. 205 , SECTION : A
 * DATE : 21-FEB-2014*/
#include <iostream>
using namespace std;
class Distance
{
	private:
		int feet;
		float inches;
	public:
		Distance() //DEFAULT CONSTRUCTOR
		{
			feet =0;
			inches =0.0;
		}
		Distance(int ft, float in)//TWO ARGUMENT CONSTRUCTOR
		{
			feet = ft;
			inches = in;
		}
		void adddistance(Distance dd1,Distance dd2)
		{
			feet = dd1.feet+ dd2.feet;
			inches = dd1.inches+dd2.inches;
			if(inches >= 12.0)
			{
				feet++;
				inches -= 12.0;
			}
		}
		void display()
		{
			cout<<feet<<"\'-"<<inches<<"\""<<endl;
		}
};
int main()
{
	Distance d1(5,7.3),d2(6,9.4),d3;
	cout<<"Distance 1= ";
	d1.display();
	cout<<"Distance 2= ";
	d2.display();
	d3.adddistance(d1,d2);
	cout<<"Distance 3 (TOTAL)= ";
	d3.display();
}
```

//OUTPUT



```
Distance 1= 5'-7.3"
Distance 2= 6'-9.4"
Distance 3 (TOTAL)= 12'-4.7"
```

```
/*THIS C++ PROGRAM ILLUSTRATES THE CONCEPT OF
 * RETURNING OBJECTS FROM THE MEMBER FUNCTION*/

 /*NAME : SAGAR GIRI, ROLL NO. 205 , SECTION : A
 * DATE : 21-FEB-201*/

#include <iostream>
using namespace std;
class Distance
{
        private:
                int feet;
                float inches;
        public:
                Distance()
                {
                        feet = 0;
                        inches = 0.0;
                }
                Distance(int f,float i)
                {
                        feet = f;
                        inches = i;
                }
                void display()
                {
                        cout<<feet<<"\'-"<<inches<<"\""<<endl;
                }
                Distance adddistance(Distance);
};
Distance Distance::adddistance(Distance dd2)
{
        Distance d;
        d.feet = feet+dd2.feet;
        d.inches = inches + dd2.inches;
        if(d.inches >= 12.0)
        {
                d.feet++;
                d.inches -= 12.0;
        }
        return d; //RETURNING THE OBJECT D
}

int main()
{
        Distance d1(4,6.2),d2(6,6.3),d3;            //OUTPUT
        d1.display();
        d2.display();
        d3 = d1.adddistance(d2);
        cout<<"Total Distance = ";
        d3.display();
}
```



```
4'-6.2"
6'-6.3"
Total Distance = 11'-0.5"
```