

1. Create two classes D1 and D2 which store the value of distances. D1 stores distances in meters and centimeters and D2 in feet and inches. Write a program to add objects of two classes D1 and D2 and the display the results in feet and inches using friend function.

```
#include <iostream.h>
using namespace std;
```

```
class D2; // forward declaration
```

```
class D1
{private:
int meters;
    int centimeters;

public:
void get_data()
{
    cout<<"Enter distance in meters and centimeters: ";
    cin>>meters>>centimeters;
}
friend void add(D1 obj1, D2 obj2);
};
```

```
class D2
{private:
int feet;
    int inches;

public:
void get_data()
{
    cout<<"Enter distance in feet and inches: ";
    cin>>feet>>inches;
}
```

```

        friend void add(D1 obj1, D2 obj2);
};

void add(D1 obj1, D2 obj2) {
    // Convert D1 to inches
    int d1_inches = obj1.meters * 39.37 + obj1.centimeters * 0.3937;

    // Add D1 and D2 in inches
    int total_inches = d1_inches + obj2.feet * 12 + obj2.inches;

    int feet = total_inches / 12;
    int inches = total_inches % 12;

    cout << "Total distance: " << feet << " feet, " << inches << " inches" << endl;
}

int main() {

    D1 d1; D2 d2;
    d1.get_data();
    d2.get_data();

    return 0;
}

```

OUTPUT