Main.cpp

```
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//Demo at 5:37
#include "Distance.h"
#include <iostream>
using namespace std;

int main() {
  Distance dist1, dist3, dist4; // define distances
  cin >> dist1;
  Distance dist2(11, 6.25); // define, initialize dist2
  dist3 = dist1 + dist2;    // single '+' operator
  dist4 = dist1 - dist2;    // friend '-' operators
  // display all lengths
  cout << "dist1 = ";
  cout << dist1 << endl;
  cout << "dist2 = ";
  cout << dist2 << endl;
  cout << "dist3 = ";
  cout << dist3 << endl;
  cout << "dist4 = ";
  cout << dist4 << endl;
  return 0;
}
```

Distance.h

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

class Distance // English Distance class
{
private:
  int feet;
  float inches;

public:
  // constructor (no args)
  Distance() : feet(0), inches(0.0) {}
  // constructor (two args)
  Distance(int ft, float in) : feet(ft), inches(in) {}
  friend Distance operator+(Distance, Distance);
  friend Distance operator-(Distance, Distance);
  friend ostream &operator<<(ostream &output, const Distance &dt);
  friend istream &operator>>(istream &input, Distance &dt);
};
```

Distance.cpp

```
#include "Distance.h"
using namespace std;



ostream &operator<<(ostream &output, const Distance &dt) {
  output << "Feet: " << dt.feet << " Inch: " << dt.inches;
  return output;
}

istream &operator>>(istream &input, Distance &dt) {
  cout << "Enter the feet: ";
  input >> dt.feet;
  cout << "Enter the inches: ";
  input >> dt.inches;
  return input;
}

Distance operator-(Distance left, Distance right) {
  Distance temp_dt;
  temp_dt.feet = left.feet - right.feet;
  temp_dt.inches = left.inches - right.inches;
  while (temp_dt.inches < 0) {
    temp_dt.inches =temp_dt.inches + 12;
    temp_dt.feet = temp_dt.feet - 1;
  }
  return temp_dt;
}
```

```
Distance operator+(Distance left, Distance right) {
  Distance temp_dt;
  temp_dt.feet = left.feet + right.feet;
  temp_dt.inches = left.inches + right.inches;
  while (temp_dt.inches > 12) {
    temp_dt.inches =temp_dt.inches - 12;
    temp_dt.feet = temp_dt.feet + 1;
  }
  return temp_dt;
}
```