```cpp
#pragma once
#include <iostream>
#include <iomanip>
//#include <string>
using namespace std;

class TimeHMS
{
    int hour, min, sec;
public:
    TimeHMS(int h, int m, int s) : hour(h), min(m), sec(s) {}
    TimeHMS(int d = 0) { convert(d); }
    ~TimeHMS() {}

    void convert(int total) {
        hour = total / (60 * 60);
        total %= (60 * 60);
        min = total / 60;
        sec = total % 60;
    }
    int totalsec() { return hour * (60 * 60) + min * 60 + sec; }

    TimeHMS operator+(TimeHMS t) {
        return TimeHMS((hour + t.hour) * 3600 + (min + t.min) * 60 + (sec + t.sec));
    }
    TimeHMS operator-(TimeHMS t) {
        return TimeHMS((hour - t.hour) * 3600 + (min - t.min) * 60 + (sec - t.sec));
    }
    bool operator==(TimeHMS t) { return totalsec() == t.totalsec(); }
    bool operator!=(TimeHMS t) { return totalsec() != t.totalsec(); }
    TimeHMS& operator++() {
        hour++;
        return *this;
    }
    TimeHMS& operator--() {
```

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    }
    TimeHMS& operator--() {
        hour--;
        return *this;
    }
    TimeHMS& operator++(int) {
        sec++;
        return *this;
    }
    TimeHMS& operator--(int) {
        sec--;
        return *this;
    }
    int operator[] (int id) {
        if (id == 0) return hour;
        else if (id == 1) return min;
        else if (id == 2) return sec;
        else return -1;
    }
    operator int() { return totalsec(); }
    operator double() { return totalsec() / 3600.; }
    friend TimeHMS operator*(int times, TimeHMS t) {
        return TimeHMS(times * t.totalsec());
    }
    friend ostream& operator<<(ostream& os, const TimeHMS& t) {
        os << fixed << setfill('0') <<
            setw(2) << t.hour << ":" <<
            setw(2) << t.min << ":" <<
            setw(2) << t.sec << endl;
        return os;
    }
    friend istream& operator>>(istream& is, TimeHMS& t) {
        int total;
        is >> total;
        t.convert(total);
```

```cpp
        is >> total;
        t.convert(total);
        return is;
    }
};

void main()
{
    TimeHMS t1, t2, t3;

    cout << "t1 : ";
    cin >> t1;
    cout << "t2 : ";
    cin >> t2;
    cout << "\n";
    cout << "t1 = " << t1;
    cout << "t2 = " << t2;
    cout << "t3=t1+t2, t3 = " << t1 + t2;
    cout << "t3=t1-t2, t3 + " << t1 - t2;
    cout << "++t1 = " << ++t1;
    cout << "--t1 = " << --t1;
    cout << "t1++ = " << t1++;
    cout << "t1-- = " << t1--;
    cout << "\n";
    cout << "t1[0], t1[1], t1[2] = " << t1[0] << ", " << t1[1] << ", " << t1[2] << endl;
    cout << "\n";
    cout << "t1[sec] = " << (int)t1 << endl;
    cout << "t1[hour] = " << (double)t1 << endl;
    cout << "\n";
    cout << "2*t1 = " << 2 * t1;
}
```

Console output:

```
t1 : 4830
t2 : 16546

t1 = 01:20:30
t2 = 04:35:46
t3=t1+t2, t3 = 05:56:16
t3=t1-t2, t3 + -3:-15:-16
++t1 = 02:20:30
--t1 = 01:20:30
t1++ = 01:20:31
t1-- = 01:20:30

t1[0], t1[1], t1[2] = 1, 20, 30

t1[sec] = 4830
t1[hour] = 1.341667

2*t1 = 02:41:00

C:\Users\user\source\repos\Week11_Homework2\x64\Debug\Week11_Homework2.exe (proc
Press any key to close this window . . .
```