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1  #include <bits/stdc++.h>
2  using namespace std;
3
4  // creating a class time
5  class Time
6  {
7      int h,m,s;
8      public:
9      // constructor with no arg..
10     Time()
11     {
12         h=0, m=0; s=0;
13     }
14
15     ~Time(){
16         h =0, m = 0, s=0;
17     }
18     // overloading '+' operator
19     Time operator+(Time);
20     friend ostream& operator << (ostream &out, Time &tm);
21     friend istream& operator >> (istream &in, Time &tm);
22     friend bool operator==(Time &t1, Time &t2);
23
24     Time operator= (const Time &tm)
25     {
26         cout << "\n";
27         h = tm.h;
28         m = tm.m;
29         s = tm.s;
30     }
31 };
32 // overloading the cout << operator
33 ostream& operator << (ostream &out, Time &tm)
34 {
35     out << "Time is: " << tm.h << " hour : " << tm.m << " min : " << tm.s << " sec";
36     return out;
37 }
38
39 istream& operator >> (istream &in, Time &tm)
40 {
41     string str;
42     tm.h =0;
43     tm.s =0;
44     tm.m =0;
45     int h[2] = {0};
46     int m[2] = {0};
47     int s[3] = {0};
48     int hi=0;
49     int mi=0;
50     int si=0;
51     int count = 0;
52     cout << "Enter time as hh:mm:ss : ";
53
54     cin >> str;
55
56     for(int i =0; i< str.length(); i++){
57         if (str[i] != ':'){
58             if (count == 0){
59                 // add elements to the hours until first ':'
60                 h[hi] = (str[i] - 48);
61                 hi++;
62             }
63             // add elements to the min until second ':'
64             else if (count ==1){
65                 m[mi] = (str[i]- 48);

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66         mi++;
67     }
68     else{
69         s[si] = (str[i] - 48);
70         si++;
71     }
72 }
73 else{
74     count++;
75 }
76 }
77 // getting time from the array of h[],m[], s[] into tm
78 tm.h = h[0]*10+h[1]*1;
79 tm.m = m[0]*10+m[1]*1;
80 tm.s = s[0]*10+s[1]*1;
81 }
82
83 // checking wheather the time objs are equal
84 bool operator==(Time &t1, Time &t2)
85 {
86     return ( t1.h == t2.h && t1.m == t2.m && t1.s == t2.s);
87 }
88
89 Time Time::operator+(Time t1) //operator function
90 {
91     // creating an obj time
92     Time time;
93     int a,b;
94     a = s+t1.s;
95     time.s = a%60; //getting the total no of seconds
96     b = (a/60)+m+t1.m; // b stores the total no of min..
97     time.m = b%60;
98     time.h = (b/60)+h+t1.h;
99     time.h = time.h%12;
100    return time;
101 }
102
103 int main()
104 {
105     Time t1,t2,t3;
106     cin >> t1;
107     cin >> t2;
108     t3 = t1 + t2;
109     cout << "\n"; //adding of two time object using '+' operator
110     cout << "Total --> ";
111     cout << t3;
112     cout << "\n \n";
113     cout << "Comaparing t1 and t2: ";
114     if(t1 == t2)
115     {
116         cout << "Both the time values are equal \n ";
117     }
118     else
119     {
120         cout << "Both the time values are not equal \n ";
121     }
122 }
123 cout << "Assigning from one obj ie. t1 to other t4 :\n ";
124 Time t4 = t1;
125 cout << t4;
126 cout << "\n";
127 return 0;
128 }
129
130 // constructor , destructor X
131 // = X
132 // == X

```

133

// + X

134

// >> X

// << X