Problem Set 1 Exercise #23: Time Difference

Reference: Lecture 3 notes

Learning objective: Selection statements; Algorithm design

Estimated completion time: 40 minutes

Problem statement:

It is often useful to know the time difference between a starting time and an ending time. Suppose the starting time is 11:16:39 (11 hours, 16 minutes and 39 seconds) and the ending time is 22:30:48 (22 hours, 30 minutes and 48 seconds). The time difference is then 11:14:09 (11 hours, 14 minutes and 9 seconds).

Write a program **time_difference.c** that reads the starting time and ending time as input, calculates and displays the time difference. The input consists of two lines, each with 3 integers separated by spaces, which denotes the *hours*, *minutes* and *seconds* respectively. The first line is the start time and the second line is the end time.

You can assume that:

1. Both starting time and ending time are in 24-hour format.
2. The starting time and ending time are always in the same day.
3. The ending time is always after the starting time.

Sample run #1:

```
1 2 3
13 12 11
Time difference: 12:10:08
```

Sample run #2:

```
11 46 39
22 31 17
Time difference: 10:44:38
```