METROPOLIA
Information Technology

Lab. exercise 4
TX00DR65

Page 1

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In this exercise we implement a simple class.

Exercise A (4 p) Implement a class

We need to write an application, which reads two times (times are represented by two integers: hours and minutes). Then the program finds out which time is later. After that it calculates the time difference between these times. Finally, the program displays the smaller (earlier) time and the time difference (duration) in the format

    starting time was 11:22
    duration was   1:04

The main function that does these things looks as follows:

```
int main() {
    Time time1, time2, duration;

    time1.read("Enter time 1");
    time2.read("Enter time 2");
    if (time1.lessThan(time2)) {
        duration = time2.subtract(time1);
        cout << "Starting time was ";
        time1.display();
    } else {
        duration = time1.subtract(time2);
        cout << "Starting time was ";
        time2.display();
    }
    cout << "Duration was ";
    duration.display();

    return 0;
}
```

Now you need to define and implement class Time so that the program starts working. As can be seen from the main function, class Time has the following member functions:
1. `read` that is used to read time (minutes and hours) from the keyboard.
2. `lessThan` that is used to compare two times.
3. `subtract` that is used to calculate time difference between two times.
4. `display` that is used to display time in the format hh:mm.[1]

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[1] If you want to display time values in two character fields with leading ′0′, use the following formatting commands:
```
cout << setiosflags(ios::right); cout << setfill('0') << setw(2) << hours;
cout << ":" << setfill('0') << setw(2) << minutes;
```
Note you also need to include <iomanip>