

Exercise: Clock, version 1

Clock
- hour : int - minute : int - second : int
+ Clock(hour : int, minute : int, second : int) + set(hour : int, minute : int, second : int) : void + getHour() : int + getMinute() : int + getSecond() : int + getTimeInSeconds() : int + toString() : String + getSimpleTime() : String

Create a new Module in IntelliJ and name it `Clock_v1`

Create a class called `Clock` that represents a clock (00:00:00 to 23:59:59), see the class diagram.

- A constructor that initializes the three instance variables and assumes that the values provided are all in the correct range.
- Getters for each of the three instance variable.
- A method `getTimeInSeconds()` calculating and returning the total seconds of the clock.
Example 01:02:15 has a total of 3735 seconds.
- A method `toString()` that return the clock with colon separated values. Example: "22:15:24"
- A method `getSimpleTime()` that return the clock with hour and minutes separated by a colon, i.e. no seconds. Example: "22:15"

Create a test class (`ClockTest`) with a main method in which you use the constructor and all methods.

Do at least the following:

- Read hour, minute, second from keyboard, and create a `Clock` object using the constructor.
- Print out hour, minute and second using the getters.
- Print out the total seconds using `getTimeInSeconds` and convince yourselves that the result is correct.
- Print out the clock using `toString`.
- Change the clock using `set` either from keyboard input or hardcoded values (literals).
- Go through step 2-4 one more time.
- Print out the clock again, either using the getters or `toString`.
- Print out the clock without seconds using method `getSimpleTime`.

Is the output as expected?