

Programming Exercises - PRO1 - Session 08

Exercise 8.01

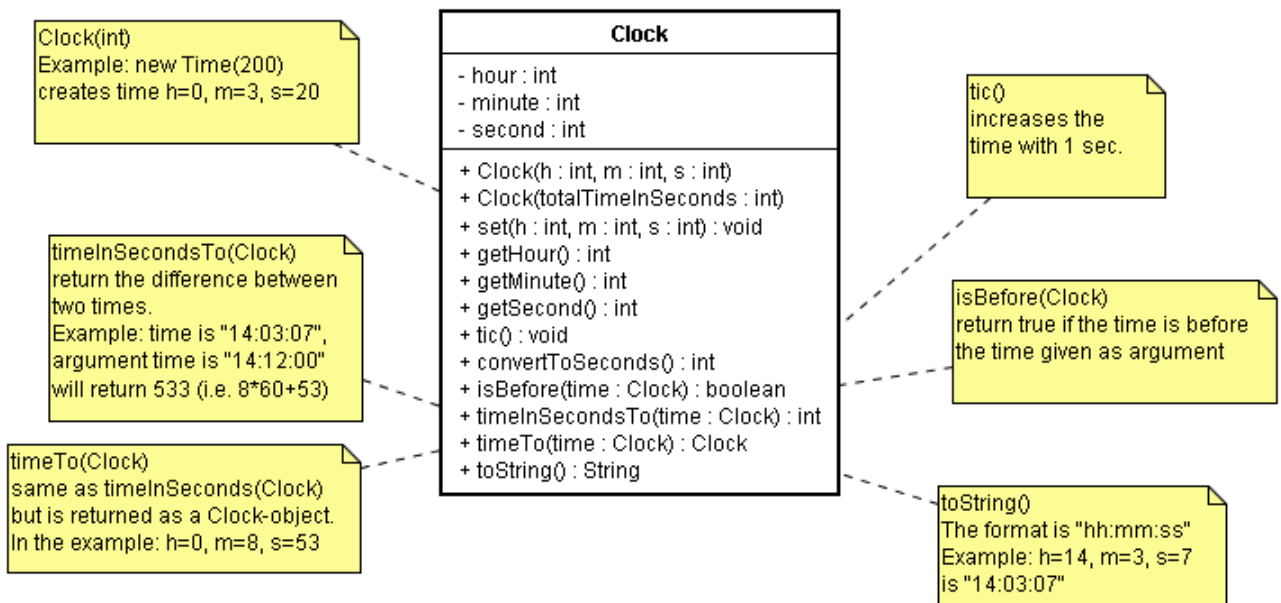
Write a program that generates a random number between 1 and 10, and then asks the user to try to guess it. When the user enters a guess, compare it with the random generated number, and then tell the user if the guess was correct, or not.

Exercise 8.02

Add a method `getMonthName()` to the `MyDate` class, that uses a switch statement to return the name of the current month (1 = January, 2 = February, etc.).

Exercise 8.03

Implement a class `Clock` holding information of a time as `hour`, `minute` and `second`. The following class diagram has to be implemented:



Then write a test application named `ClockTest` that demonstrates the functionality of the `Clock` class.

Exercise 8.04

Modify class `Clock` so that you:

- a) Add a `boolean` instance variable called `timeFormat24`, that can hold the value `true` to represent that the clock is set to a 24-hour time format and `false` if it is set to a 12-hour time format.
- b) Add a `get` method called `isTimeFormat24()` that returns the value of `timeFormat24`.
- c) Add a `set` method `setTimeFormat(int hourFormat)` that takes either 12 or 24 as argument and sets the time format according to this. If any other value is put as argument it should make no changes.
- d) Change the `toString()` method so that time is returned in 12-hour format if `timeFormat24` is `false`, and in 24-hour format if `timeFormat24` is `true`.
Example: `h=20, m=5, s = 40` will return `"20:05:40"` if `timeFormat24` is `true` and `"8:05:40 PM"` if `timeFormat24` is `false`.