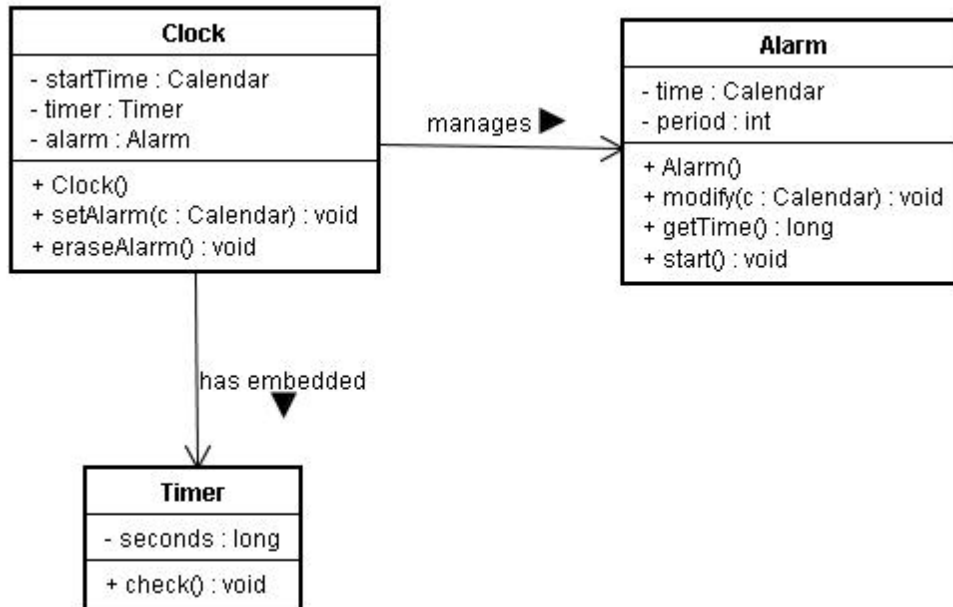


## Inner classes

### Problem 1

Write a program that simulate the functionality of an alarm clock. The program should implement the classes from the next diagram:



These classes fulfill the following requirements:

- when a clock is created, the clock start time is set.
- it is possible to set the alarm time of the clock.
- the Timer is an inner class of the Clock class and verifies if the current time is equal to the alarm time. In the affirmative case, the timer activates the alarm.
- an activated alarm is acknowledged by displaying a message to console for a period of five seconds.
- acknowledgment of an alarm leads to the alarm being erased.
- an alarm can be also erased by the user.
- the user can also modify an existed alarm.

In order to test the functionality of the classes, write a TestClock class that creates an object from the Clock class and sets the alarm.