

Object Oriented Programming

Assignment 6 - Clock Class

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1 Description

You will be writing a Clock class. It will need to:

1. Return a string representation (create method `public String toString() { ... }`)
2. Set the time (do bounds checking)
3. Get the minute/hour
4. Update (tick; subsequent calls to tick will increase the time)
5. Write a driver that tests your class

2 Other Notes

1. Don't repeat code (look very carefully at your implementation)
2. You are not doing a real time clock. You are modelling a clock. It is not 'useful' but you need to learn the concepts.
3. In your code, you will create a clock like (for example): `Clock myClock = new Clock(5, 23);`. If you do `myClock.tick()` you should get something like "5:24" when you call `myClock.toString()`. If you call tick 61 times you should get "6:24"
4. Use a 24 hour clock
5. Your clock should be able to wrap around minutes and hours (eg: calling tick at 23:59 should turn the clock to 0:00)
6. Note: Your clock should be able to pad minutes. So you should see "1:01" and not "1:1"

3 Example Interface (methods you may want to include)

```
public Clock ();  
public Clock(int hour, int minute);  
public void setHour(int hour);  
public void setMinute(int minute);  
public void tick ();  
public int getHour ();  
public int getMinute ();  
public String toString ();
```

4 Some references

- http://homeandlearn.co.uk/java/write_your_own_java_classes.html
- Rest of section 7 at <http://homeandlearn.co.uk/java/java.html>