

## A Time Class

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### Purpose:

To be able to create a basic class and manipulate objects in that class.

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### Due Date:

The completed lab assignment is due Monday, November 14, 2011 *at the beginning of lecture*.

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### A Time Class

Write a simple Time class like that discussed in lectures.

- In particular, a Time should have methods

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```
public void setHour (int hour)  { /* ... */ }
public void setMinute (int minute) { /* ... */ }
public void setSecond (int second) { /* ... */ }
```

---

that set the various components of a Time object. These should ensure that the resulting time is legitimate.

- It should also have

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```
public int getHour  () { /* ... */ }
public int getMinute () { /* ... */ }
public int getSecond () { /* ... */ }
```

---

methods that return the corresponding value from the object.

- Add a methods that looks like

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```
public String toString() { /* ... */ }
```

---

that produces a string like "22:03:12" from a time. You may wish to ask your lab instructor about the `String.format` method.

(N.B. Once you have this method working, you can print Time objects using functions like `System.out.print`.)

- Add a methods that looks like

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```
public void advanceBy(int seconds) { /* ... */ }
```

---

that changes the time by a given number of seconds.

- ⇒ Write a test class that uses the various methods of the Time class to show that they work.
- ⇒ Write a question asking program that asks the user for a time and for a number of seconds to add, then writes a message like

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```
Advancing 134 seconds from 12:03:15 gives 12:05:29.
```

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