More Practice with Objects

Scanners, etc.

February 9, 2012

CMPSCI 121, Spring 2012

*Introduction to Problem Solving with Computers*

Prof. Learned-Miller
Assignments

<table>
<thead>
<tr>
<th>Requirement Status</th>
<th>Assignment</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bank Accounts</td>
<td>2/9/2012 11:30 PM</td>
</tr>
<tr>
<td>R</td>
<td>Chapter 3 Exercises</td>
<td>2/13/2012 11:30 PM</td>
</tr>
<tr>
<td>✔</td>
<td>eBook - Chapter 4: Looping and Conditionals</td>
<td>2/14/2012 11:30 PM</td>
</tr>
<tr>
<td>R</td>
<td>Chapter 4 Exercises</td>
<td>2/16/2013 11:30 PM</td>
</tr>
</tbody>
</table>
E-book embedded exercises

- They ARE graded.
- OWL doesn’t know about them, so it will say confusing stuff.
Grading of Programming assignments

- “Why do I have a 0? I turned in my assignment.”
Bugs in Section 4.4

- E-book Section 4.4 has bugs in it. OWL people are working to fix it.
Today

- More with Scanners
- using methods and writing methods
- focus on get and set methods
- constructors
DrJava

- “Use the class Car to write a program which does...”
  - What do I do?
DrJava

“Use the class Car to write a program which does…”

What do I do?

- Open a new file in DrJava
- Paste the “Car Class” into the editor.
- Save as Car.java

- Then, open a new file for your main method (maybe CarTester.java), and put the rest of the code there.
Demo with LooseLeaf

- Section 3.5a.
Let’s make an addition calculator...
get and set methods
public class MacVerse
{
    // animal name in verse
    private String name;
    // animal noise in verse
    private String noise;

    public MacVerse(String animalName, String animalNoise)
    {
        name = animalName;
        noise = animalNoise;
    }

    public String getName()
    {
        return name;
    }

    public String getNoise()
    {
        return noise;
    }

    public void verse()
    {
        System.out.println("And on that farm he had a " + name);
        System.out.println("ei ei o");
        System.out.println("With an " + noise + " " + noise + " here");
        System.out.println("And a " + noise + " " + noise + " there");
        System.out.println("Here a " + noise + " there a " + noise);
        System.out.println("Everywhere a " + noise + " " + noise);
    }
}
“public” means that the method can be accessed from “outside” the class file.

```java
public String getName()
{
    return name;
}
```
This is the *type* of the value that the method will “give back” to the program that is using the method.

```java
public String getName()
{
    return name;
}
```
This is the type of the value that the method will “give back” to the program that is using the method.

```java
public String getName() {
    return name;
}
```

for example... in another .java file...

```java
String s = mySon.getName();
```
The data that is sent back to the calling method is the value stored in this variable.

```java
public String getName()
{
    return name;
}
```

for example... in another .java file...

```java
String s = mySon.getName();
```
A get method. Questions?

```java
public String getName()
{
    return name;
}
```
Return types

- The *type* returned from a method MUST BE THE SAME type as the variable it is stored in by the caller.
Exercise 3.23
Writing a get method

- Try copying a different get method and modifying it!
get method to return age variable, which is an int.
get method to return age variable, which is an int.

- Start with some other method:

```java
public String getName() {
    return name;
}
```
get method to return age variable, which is an int.

- Now modify it:

  public String getName() {
    return name;
  }
get method to return age variable, which is an int.

- Now modify it:

```java
public String getAge() {
    return age;
}
```
get method to return age variable, which is an int.

- Now modify it:

  ```java
  public String getAge() {
    return age;
  }
  
  There is still a problem here....
  ```
get method to return age variable, which is an int.

- Now modify it:

```java
public int getAge() {
    return age;
}
```

There is still a problem here....
End of slides