More Practice with Objects Scanners, etc.

February 9, 2012

CMPSCI 121, Spring 2012

Introduction to Problem Solving with Computers

Prof. Learned-Miller

Assignments

Requirement Status	Assignment	Due Date
R	Bank Accounts	2/9/2012 11:30 PM
R ✔	Chapter 3 Exercises	2/13/2012 11:30 PM
R ✔	eBook - Chapter 4: Looping and Conditionals	2/14/2012 11:30 PM
R	Chapter 4 Exercises	2/16/2013 11:30 PM

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

```java
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);
  }
}
```

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"public" means that the method can be accessed from "outside" the class file.

```
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.

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public String getName()
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```

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

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...

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:

```
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:

```
public String getAge() {
    return age;
}
```

get method to return age variable, which is an int.

- Now modify it:

```
public String getAge() {
    return age;
}
```

There is still a problem here....

get method to return age variable, which is an int.

- Now modify it:

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

There is still a problem here....

End of slides