COMP 110
Errors, Strings, and Review

Darrell Bethea
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Announcements

- Program 1 Due Wednesday
Questions?
Today in COMP 110

- Errors
- Strings
- Review
Errors

- Syntax error – grammatical mistake in your program
- Run-time error – error that is detected when your program is run
- Logic error – the output of your program is incorrect
### String Indices

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String output = `myString.substring(1, 8);`
System.out.println(“How do I put \“quotes\” in my string?”);
I/O (Input/Output)

- System.out.print(“this is a string”);
- System.out.println(“this is a string”);

- What is the difference?
Keyboard Input

See p. 90

```java
Scanner_Object_Name.next()
Returns the String value consisting of the next keyboard characters up to, but not including, the first delimiter character. The default delimiters are whitespace characters.

Scanner_Object_Name.nextLine()
Reads the rest of the current keyboard input line and returns the characters read as a value of type String. Note that the line terminator '\n' is read and discarded; it is not included in the string returned.

Scanner_Object_Name.nextInt()
Returns the next keyboard input as a value of type int.

Scanner_Object_Name.nextDouble()
Returns the next keyboard input as a value of type double.

Scanner_Object_Name.nextFloat()
Returns the next keyboard input as a value of type float.
```
Documentation and Style

- Meaningful names
- Indenting
- Documentation
- Defined Constants
Defined constants

- `public static final Type Variable = Constant;`
- Named in ALL_CAPS
- `public class DefinedConstant` { 
  - `public static final double PI = 3.14159;`
  - `public static void main(String[] args) {
    
  }`
Hardware vs. Software

- Hardware – physical machine
  - CPU, Memory

- Software – programs that give instructions to the computer
  - Windows XP, Google Chrome, Games, Eclipse
Java is an OOP language

- Object-Oriented Programming Language
  - Classes
  - Objects
  - Methods
Encapsulation

- “Information hiding”
- Users of a class only need to know methods
- Methods in the String class
  - `myString.length();`
Polymorphism

“many forms”

Same instruction to mean same thing in different contexts.

In programming, this means that the same method name can cause different actions depending on what object it is applied to.
- rectangle.area();
- circle.area();
Organizing classes so properties only have to be defined once
Questions?