CMSC 131

Fall 2018

Strings

- What's a String?

Example:
```
  String name = "Fred";    // note the double quotes
```

IMPORTANT: Strings are not primitives – they are objects! (More about that later.)

- What is "concatenation"?

Example:
```
  String firstName = "Bob";
  String lastName = "Smith";
  String fullName = firstName + lastName;   // no space?
```

Examples: Strings1.java

Things to observe:

- Use double quotes around String literals

- Concatenation with +

- x.length() yields the length of the String x

- Java will sometimes implicitly convert things to Strings (e.g. when using the + operator)

Example: TypeProblems.java

You can't usually mix types in Java!

Points to raise:

- Conversions between numerical types

- Distinction between char and String

- In Eclipse: Errors are in red, warning are in yellow

Examples: Scanner1.java, Scanner2.java

The Scanner can be used to obtain input from the user.

- At the top of the file: `import java.util.Scanner;`

- Declare a Scanner variable:

  ```
  Scanner myScanner = new Scanner(System.in);
  ```

- To use the scanner:
  ```
  int x = myScanner.nextInt();
  double y  = myScanner.nextDouble();
  long z = myScanner.nextLong();
  String a = myScanner.nextLine();
  String b = myScanner.next();
  ```

- When finished: `myScanner.close();`

Example: ScannerPitfall.java

Unexpected result from the following sequence:

int size = myScanner.nextInt();

String name = myScanner.nextLine();

Arithmetic Operators

+	add
-	subtract
/	divide
*	multiply
%	modulus

- Order of precedence?

Evaluate:

```
8 / 4 * 2
```