

# COS 126 Precept

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# Agenda

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- ▶ Questions
- ▶ Quickly Review Lecture Material
- ▶ Type Conversion
- ▶ Activity
- ▶ General Tips



# Questions?

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- ▶ **Regarding**
  - ▶ Data types
  - ▶ Literals
  - ▶ Variables
  - ▶ Assignment statements



# Integers (...-5 -4 -3 -2 -1 0 1 2 3 4 5...)

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- ▶ Data type for integers: int
- ▶ Can represent values between  $-2^{31}$  and  $2^{32} - 1$ 
  - ▶ minimum value of -2,147,483,648
  - ▶ maximum value of 2,147,483,647
- ▶ Assignment statement
  - ▶ =
- ▶ Arithmetic Operators
  - ▶ + - \* / %



# Comments

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- ▶ Help clarify your program
- ▶ Header Comments

```
/* Name  
    login  
    precept  
    program info (filename, assignment)  
    date  
*/
```

- ▶ Two comment types
  - ▶ Single line comments
  - ▶ Multiple line comments



# String

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- ▶ **String literals use double quotes**
  - ▶ `String MyString = "Something in Quotes";`
- ▶ **Arithmetic Operators**
  - ▶ Concatenation `+`
- ▶ **Equality**
  - ▶ String is not a primitive type
  - ▶ Do NOT use `==` to compare strings



# Other data types

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## ▶ Boolean

- ▶ Store True or False
- ▶ Operators
  - ▶ == != < <= > >=

## ▶ Doubles

- ▶ Store real numbers: 3.23 -5.1232 102123.123 11239853
- ▶ Operators:
  - ▶ > >= < <=
  - ▶ Try not to use == with doubles



# Type Conversion

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- ▶ **Explicit Type Conversion**

- ▶ `int myInt = Integer.parseInt("0123123");`
- ▶ `double myDouble = Double.parseDouble("3.1232");`

- ▶ **Explicit cast**

- ▶ `double quotient = (double) 1 / (double) 3;`
- ▶ `int y = (int) Math.round();`
- ▶ Careful with loss of information and precedence
  - ▶ `(int) 11 * 0.3`
  - ▶ `11 * (int) 0.3`
  - ▶ `(int)(11 * 0.3)`

- ▶ **Automatic Promotion**

- ▶ `Double quotient = 1.0 / 3;`



# Activity

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- ▶ Get into pairs of two



# Programming Advice

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- ▶ Hit Run-Script after all of your files are submitted
  - ▶ This makes sure your program compiled
- ▶ Programming is an acquired skill
- ▶ Start EARLY
- ▶ Create new directory for each assignment
- ▶ Read assignment 2 before Thursday
- ▶ Capitalization is important
  - ▶ HelloWorld.java vs Helloworld.java
  - ▶ Any wrong letter means moodle will not accept it

