Recap

- Compiling and running programs
- Parts of a program
  - Class declaration
  - Main method
    - What are the parts of any method?
- Statements
- Printing

Variables

- Types
  - int
  - double
  - String
  - boolean
- Declaration
  - int varOne;
  - Double x;
  - String str;
  - Boolean flag;
- Initialization
  - varOne = 5;
  - x=4.5;
  - str = "hello world";
- Reuse
Variables – con’t

- Arrays

I/O

Command Line Input

- Command line parameters
- String[] args
- java filename input1 input2 3 ...
  - What's in args[0]
    - "Input1"
  - What's in args[2]
    - "3"
  - What's in args[3]??

I/O

Output with variables

- System.out.println("string literal" + var);
Conversion between data types

- **Casts**
  - `double num = 3.4;`
  - `int var = (int) num + 5;`
    - Useful in division!
- **Strings to integers**
  - `int input = Integer.parseInt(args[0]);`
- **Strings to doubles**
  - `double input = Integer.parseDouble(args[0]);`

Math operators

- Data types are important here!
- `+`, `-`, `*`, `/`
- `++`, `--`
- `%`
- `&&`
- `||`
Assignment

- Write a program, Calculator.java (for Java students) that takes two non-zero integer command line parameters, performs the following calculations, and prints out the result of each operation. The operations which you need to implement are:
  - a+b (addition), a*b (multiplication), a/b (division), a mod b (modulus), ((a-1)*(b-1)+(b+1)+(b+2))
- Please return the results in the above order and clearly label each result. See below for a sample output.

Sample Output for java Calculator 2 4
The sum of 2 and 4 is 6
The product of 2 and 4 is 8
2 divided by 4 is .5
2 % 4 is 2
I computed (((2-1)*(4-1))+(4+1)+(4+2)) to equal 14