

# CS 46B

## Introduction to Data Structures

Summer Semester 2015

Department of Computer Science  
San José State University  
Instructor: Ron Mak

### Homework #6

## Mutual Recursion Calculator

**Assigned:** Tuesday, June 30

**Final due:** Monday, July 6 at 11:59 PM (there is no draft)

**Codecheck URL:** <http://codecheck.it/codecheck/files/15063004458msne7gm8q5xfc266nmdvknb5>

**Canvas:** Homework 6 final

**Points:** 18 points max

This assignment will check your understanding of mutual recursion and its application in the interactive command-line calculator.

Modify the textbook's **Evaluator.java** to handle:

- The % modulo operator, which should bind as tightly (have the same precedence level) as \* and /

Example:  $19\%4 = 3$

- The ^ power operator, which should bind the most tightly of all the operators (have the highest precedence level).

Example:  $2^5 = 32$   
 $3*2^5+4 = 100$

**Tip:** Look up **Math.pow()**

Your program should have a main class **ExpressionCalculator** that reads multiple arithmetic expressions from the command line. The expressions do not contain blanks but are separated by blanks. Print and evaluate each expression on a separate line.

Example: `java ExpressionCalculator 19%4 3*2^5+4`  
should write to **System.out**:

```
19%4 = 3
3*2^5+4 = 100
```

Codecheck URL:

<http://codecheck.it/codecheck/files/15063004458msne7gm8g5xfc266nmdvknb5>

(Ignore the system error about the unknown pseudocomment ARGS.)

Canvas: Homework 5 Final