# Homework 07

## 1 General Instructions

Homework should be submitted to Desire2Learn, as either a plain-text file or a PDF file. For parts of homework that are writing code you may wish to type your answers into an Eclipse projects so that you can test them, then copy and paste them into the document you are submitting.

Homework will be graded for <u>completion</u> – whether or not it looks like you have tried to answer all of the questions to the best of your ability – rather than <u>correctness</u>. In fact, you won't get much feedback about your homework submissions at all. Instead, I will be posting a solution after the due date. You are strongly encouraged to compare that solution to your own work, and ask questions if you do not understand any parts of the solution.

The purpose of homework is to help you figure out how well you understand the concepts that you can expect to see on the exams.

## 2 Assignment

1. Suppose that the only thing you knew about the `Mystery<E>` class was that it implements the `Iterable<E>` interface. Fill in the body of this method to print each element of `collection`.

```
public static <E> void printAllElements(Mystery<E> collection) {
```

2. What two things must every recursive method have at least one of?

3. Write a method that calculates a `base` raised to an exponent called `exp`. For example, `power` `(2.0,3)` should return 8.0. You may assume that the `exp` is 0 or greater. The header for this method should be:

```
    public static double power(double base, int exp)
```

4. Modify your answer from the previous question to handle negative exponents. Remember that $x^{-y}$ is equal to $1/x^y$.

5. Trace the following recursive function. What would the result be of the call `mystery(5)`?

```
    public static int mystery(int n)
    {
      if(n <= 1)
        return 5;
      else
        return 3 + mystery(n-1);
    }
```

# 3   Submitting Your Work

If your document is not already plain-text or PDF, convert it to one of those formats. Then upload it to D2L under this assignment.