CSCE 145: Lab 11
Classes, Objects, Methods, and Iteration

Objectives

In this week's lab you will learn about

- Designing and implementing a class and writing a simple **for**-loop for repeating a number of actions.

Program Specification

Implement a class *InsectPopulation* that simulates the growth of a population of insects. Your class will have one instance variable for the *size* of the population. It will have the following methods:

- A constructor that has one parameter for the size of an insect population to be constructed.
- A *breed* method that simulates a period where the insects **double** their population by breeding.
- A *spray* method that simulates spraying the insects with an insecticide, which reduces their population by 10%.
- A *getSize* method that returns the current number of insects.
- A *display* method that calls the *getSize* method and then prints the current population of the insects.

Implement a second class called *TestInsectPopulation* that can test your *InsectPopulation* class. It will have in it just a main method, which will do the following:

- The *main* method will construct a population of 10 insects and then iterate 8 times (using a **for**-loop) over the sequence of actions *breed*, *spray*, and *display*.

Show your program to the TA when you are done and upload your Java source code to the dropbox at https://dropbox.cse.sc.edu.