

Polymorphism Lab 1

Objectives

1. Students will practice basic polymorphic program design in this lab.
2. After completing this lab students should be familiar with running tests against their code to confirm it is functioning properly.

Overview

In this lab you will practice creating a simple Java program designed to make use of polymorphic design.

Unit Test

You will be provided with tests to run against your code. Be sure to use the `io.zipcoder.pets` package for your Pet classes to allow tests to execute properly.

Instructions

Part 1:

Create a program that asks the user how many pets they have. Once you know how many pets they have, ask them what kind of pet each one is, along with each pet's name. For now your program should just hold onto the user input and print out the list at the end; we'll modify this in part 3.

Part 2:

Create a Pet class, and a subclass for each type of pet that you want your program to support. Your classes should follow the following requirements:

- You must support at least three types of pets.
- Dog must be one of the types you support.
- Cat must be one of the types you support.
- The Pet class must have a `speak` method that each subclass overrides.
- The Pet class must have a `name` field with setters and getters.

Use the tests provided as examples to write your own tests for other supported types of pets.

Part 3:

Modify your program from part 1 to use the Pet class and its subclasses. Keep a list of the pets your user lists and at the end of the program print out a list of their names and what they say when they speak.