# Exercise 1: A basic LineSwimmer

To start with, it would be nice to get at least one fish living in the Aquarium so that we have something to look at! First, examine the *object hierarchy*.

* The interface **Creature**: the starting point for everything in the Aquarium. Every creature must have:
  + A name (getName);
  + A location in the Aquarium (getLocation);
  + An appearance to draw (getAppearance).
* Every creature must also react to:
  + Requests to update its location every 0.1 seconds (updateLocation);
  + Notifications that it has:
    - Hit the left wall (hitLeftWall);
    - Hit the right wall (hitRightWall);
    - Hit the bottom of the aquarium (hitFloor);
    - Hit the surface of the water (hitSurface);
    - Hit the very top of the aquarium (hitClouds)

A starting point for such a creature has been implemented as a **PaintedCreature**. A PaintedCreature is an abstract class, which means it still needs some additional functionality, but it does provide a way to store the name and location of the creature, and the ability to paint the creature’s appearance on the screen. You can do this with *Graphics* commands.

There is an implementation of a PaintedCreature called **LineSwimmer** which, as you may have guessed, moves in a straight line and stays inside the aquarium by bouncing off the edges. Its constructor takes:

* A String *name*, which is the name of the LineSwimmer being created.
* An int *speed*, which is how fast the LineSwimmer will move through the aquarium.

## Your Assignment

Given the provided creatures, write a class called **BoringFish** which, as the name implies, is just a boring fish that moves through the aquarium. This will serve as our starting point for future exercises.

This fish should:

* Move throughout the aquarium 10 pixels at a time in both the X and Y directions (a capability LineSwimmer provides);
* Accept and pass along a name its owner would like to use to identify it.

That means it should have a constructor that takes one String argument: the BoringFish's *name*.

After implementing BoringFish, add a line to aquarium\Aquarium.java's “fillWithCreatures” method that adds a new BoringFish called “Bob” to the aquarium. The set of creatures in the aquarium is aptly named *creatures*, which means you will be adding a line such as the following:

creatures.add(new BoringFish(“Bob”));