Marine Biology Simulation Case Study

**Fish: act and move methods**

General Outline:

Fish act method
A. calls `isInEnv` to verify that fish is still in environment
B. calls `move`, which
   i. calls `nextLocation` to decide where to move, which
      a. calls `emptyNeighbors` to find empty neighboring locations
      b. randomly chooses one of those neighboring locations to move to
   ii. calls `changeLocation` to move there
   iii. decides which direction to face
   iv. calls `changeDirection` to face that direction

Go to diagrams for:

**Overview:** Cast of Characters | The Driver

**Initial Program:** Simulation: step | Fish: act and move | nextLocation | emptyNeighbors
Breeding and Dying: Fish: modified act method | move | breed | die
Specialized Fish: DarterFish | DarterFish: move | SlowFish: nextLocation
Environment Implementations: Environment Class Hierarchy