**Marine Biology Simulation Case Study**

**Environment Class Hierarchy**

- **Environment Interface**
  - numCells
  - isValid
  - numNeighbors
  - numировер
  - randDirection
  - getDirection
  - getNeighbor
  - neighbors
  - numNeighbors
  - allObjects
  - isEmpty
  - add
  - remove
  - locked

- **Square Environment Class**
  - numCells
  - isValid
  - numNeighbors
  - randDirection
  - getDirection
  - getNeighbor
  - neighbors

- **BoundedEnv Class**
  - numCells
  - isValid
  - numNeighbors
  - allObjects
  - isEmpty
  - add
  - remove

- **UnboundedEnv Class**
  - numCells
  - isValid
  - numNeighbors
  - allObjects
  - isEmpty
  - add
  - remove

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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