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Design Rationale

This program was made to represent a simulated environment where a user can move a ship through an ocean grid, and pirate ships will chase it. To do this, I employed 4 classes, one for the "world," one for the ocean, one for our ship, and one for our pirate ships. We used an observer/observable class model for the ship and pirate ships, because each movement that the ship made, the pirate ship would nudge closer. As such, the ship class extended Observable and the pirate ship class implemented Observer from the Java library. In the environment class (the one with the main function), we delegated specific functionality onto the ships, forcing them to make their logical decisions inside their own classes instead of the environment class, since we had multiple pirate ships to manage. The ocean class simply drew the map and designated islands randomly at the start of each game, which again, made it easier by using delegation here.

Class Diagram: