Exercise 2: Logical Thinking

Puzzle 1: Alice and Bob are on separate islands. Bob is sick, and Alice has the medicine. Eve has a boat and a chest that can be locked. She is willing to transport objects between Alice and Bob, but only in the chest, and if the chest is unlocked, she will steal whatever is inside. If both Alice and Bob have a padlock and a key such that their own key only opens their own lock, how can Alice send Bob the medicine so that Eve won’t steal it?

Puzzle 2: You are on a quiz show, and you’re told to make a statement. If the statement is true, you get exactly $10. If the statement is false, you get either less than or more than $10 but not exactly $10. What statement can you make to guarantee that you’ll get $1,000,000?

Puzzle 3: Three identical airplanes start at the same airport. Each plane has a full fuel tank holding just enough fuel to allow the plane to travel half the distance around the world. These airplanes possess the special ability to transfer fuel between their tanks in mid-flight. Devise a scheme that will allow one airplane to travel all the way around the world without ever landing to get more fuel.

Exercise 3: Practice with Exceptions

Divide into teams to play a game like Jeopardy involving questions about the code on the next page. For each question, the team that grabs the no-longer-flashing-light thingy first gets to try to answer the question. If the answer is right, the team gets points, and gets to choose the point value of the next question (100, 200, or 300 points).