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Homework Assignment 5

Reflection:

1. I changed the design by adding a separate railway track immediately below the existing one that moves from East to West. I added a variable named movingWest to the train to determine if that train would be moving east to west or west to east. This would allow me to determine if I had to increment or decrement the train's ImageView's x coordinate. I also had to update the currentGateState variable, which was in the update function of CrossingGate. This would determine if the trains were in the range of the gates so that they would stay closed when the trains are passing so that the cars didn't go through. For the second implementation, I added a second constructor to choose randomly if a car would be going through the Eastwest road or not. I then changed the observer chain by changing the distance that a car can be horizontally from another car. The second implementation doesn't work correctly completely because once the cars turn into the Eastwest road, they do not correctly observe the cars in the western highway so they drive over the other cars.

2. It would not scale up because the cars turning do not observe the cars coming on the left road. This would cause crashes in real life rather than driving over other cars, like in the simulation. Other than that, it would scale up because the cars stop when they're too close to the others no matter where on the eastern road or the Eastwest road.