Assignment 3

You have 3 cards:

1. **Card 1 (Red-Red)**: Both sides are red.
2. **Card 2 (Black-Black)**: Both sides are black.
3. **Card 3 (Red-Black)**: One side is red, and the other side is black.

The cards are mixed up in a hat, and one card is randomly selected and placed face down. The upturned side of the card is red.

Task: Simulate the process of selecting a card, randomly flipping it, and determining if the other side is black. After running a large number of trials, calculate the probability that the other side is black, given that the upturned side is red.