CS 70, Spring 2015 — Solutions to Homework 12

Due Monday April 20 at 12 noon

1. **Elevator**

   (a) The probability of the elevator stopping at all on floor 3 means that at least one of the eight people in the elevator will get off. Every single person on the elevator has a $\frac{1}{10}$ probability of getting off on floor 3, because there is 10 floors total. This means the probability that it stops on floor 3, is all of these probability combined. Therefore, the probability of the elevator stopping on floor three is $\frac{8}{10} \approx 0.8$.

   (b)

2. **Soulmates**

   YOUR ANSWER HERE

3. **Variance**

   (a) YOUR ANSWER HERE
   (b) YOUR ANSWER HERE

4. **Markov and Chebyshev**

   YOUR ANSWER HERE

5. **Random bit strings**

   (a) YOUR ANSWER HERE
   (b) YOUR ANSWER HERE
   (c) YOUR ANSWER HERE
   (d) YOUR ANSWER HERE

6. **Display**

    (a) YOUR ANSWER HERE

    (b) YOUR ANSWER HERE

    (c) YOUR ANSWER HERE

7. **Which door?**

   (a) YOUR ANSWER HERE

   (b) YOUR ANSWER HERE

   (c) YOUR ANSWER HERE

8. **Extra credit: Non-transitive Dice**

   YOUR ANSWER HERE