**HW - Week 13**

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5.2-3: Since there are 6 sides to a dice, the probability of getting each side would be

Hence, the expected value for dice i would be

Accordingly, given n dices, since the dices are similar and have the same expeteced value, we have that

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5.4-2: Suppose that we toss balls into b bins until some bin contains two balls. Each toss is independent, and each ball is equally likely to end up in any bin. What is the expected number of ball tosses?

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5-2

h. Letting k be the number of indices i such that A[i] = x, give the worst-case andexpected running times of SCRAMBLE-SEARCH for the cases in which k = 0 and k = 1. Generalize your solution to handle the case in which k≥1.

i. Which of the three searching algorithms would you use? Explain your answer

NOTES:

(h) No need to consider the case where k>1

(i) You can use directly the conclusions we reached to for RANDOMIZED-SEARCH and DETERMINISTIC-SEARCH in the class.

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8.4-4