

CS2022/MA2201
HW#6

DUE: Tuesday, September 28

1. (2 points) Do **Exercise 4.1.14** from our text.
2. (2 points) You are drawing n cards from a playing deck of 52 cards. What is the minimum value of n to assure that you draw:
 - (a) a pair
 - (b) three of a kind
3. (1 point) Do **Exercise 4.1.44** from our text.
4. (4 points) Do **Exercise 4.2.4** from our text.
5. (4 points) Do **Exercise 4.2.28** from our text.
6. (6 points) (a) In how many ways can the 6 capital cities of New England be visited?
(b) In how many ways can the 6 capital cities of New England be visited if we insist that Providence should always be visited just after Boston?
7. (12 points) We want to pick a five person committee from a group of five men and seven women. In how many ways can this be done if:
 - (a) the committee must contain at least three men and at least two women,
 - (b) the committee must contain at least one man,
 - (c) the committee must contain at most one man.