

COMPUTER SCIENCE 20, SPRING 2012
DISCRETE MATHEMATICS FOR COMPUTER SCIENCE

Class #23 (Counting Subsets)

Homework, due in hard copy Wednesday 4/4/2012 at 10:10am

Please write your TF's name on your homework, and list the names of any students with whom you collaborated.

1. How many length-7 bit strings have more 1s than 0s or an even number of 1s?
2. In the hopes of making millions, you head over to the poker table.¹
 - (a) A *royal flush* is a 5-card poker hand that has the Ace, King, Queen, Jack, and 10 of a single suit. How many ways are there to be dealt a royal flush, assuming the order in which the cards are received does not matter?
 - (b) A *pair* is a 5-card poker hand that has two cards of the same rank and three cards of different rank from each other and from the pair. How many ways are there to be dealt a pair?
 - (c) What is the ratio of royal flush hands to pairs?

¹Luck be a lady tonight!