

CSE 321 Discrete Structures

February 19th, 2010

Lecture 18: Counting (continued)

Announcements

- No class on Wednesday, Feb. 24
- Homework 7 posted, due Friday Feb. 26
- Please STAPLE your homework !
 - Do not turn in homework on loose-leaf paper
 - (Andrew is time matching loose pages)

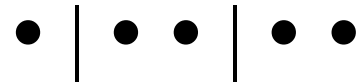
Permutations/Combinations with Repetition

- How many different ways are there of selecting an ordered set of 5 letters from $\{A, B, C\}$ with repetition

- How many different ways are there of selecting an unordered set of 5 letters from $\{A, B, C\}$ with repetition

How many different ways are there of adding 3 non-negative integers together to get 5 ?

$$1 + 2 + 2$$



$$2 + 0 + 3$$



$$0 + 1 + 4$$

$$3 + 1 + 1$$

$$5 + 0 + 0$$

How many non-decreasing sequences of $\{1,2,3\}$ of length 5 are there?

Permutations of indistinguishable objects

- How many different strings can be made from reordering the letters ABCDEFGH
- How many different strings can be made from reordering the letters AAAABBBB
- How many different strings can be made from reordering the letters GOOOOGLE