intro

- foreshadowing/context: under all prob computations are *sample spaces*
- rarely work with sample spaces directly, unless they're simple (heads/tails)
  - (so, we start here)

lec 1

- what is prob?
  - objective prob: long run freq of occurrence (eg heads in coin flip)
    - often called frequentist/classical methods.
    - used more often in undergrad CMU
  - subjective prob: a possibly informed belief in rate of occurrence of event
    - can called bayesian
- set notation
  - $A \supset B, A \subset B, A \cup B, A \cap B, \overline{A}$ aka A^C
  - let the set of all experimental outcomes $\Omega = A \cup \overline{A}$
  - $A \cap B = \emptyset \implies A$ and B are mutually exclusive aka disjoin
  - distributive/associative laws
  - de morgan's ($\overline{A \cup B} = \overline{A} \cap \overline{B}$, etc)
- experiments
  - passive
  - active
- sample space (Ω)
  - two coins tossed? $\Omega = \{\text{HH}, \text{HT}, \text{TH}, \text{TT}\}$
    - HH is simple event
    - TH is compound event ("at least one tail")
  - free throws until miss? $\Omega = \{\text{M, HM, HHM, ...}\}$
  - relative freqs of above? don't know! need more info