Section 6.3: Intro to Probability

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10:59 AM

classical probability: if all outcomes are equally likely, then the probability of event E happening is:

$$P(E) = \frac{n(E)}{n}$$

$P(E)$: probability of E happening

$n(E)$ - number of ways E can happen

n - total number of outcomes

all outcomes equally likely $\Rightarrow$ fair ✓

example: If you roll two 4-sided dice, what's the probability that the sum of the rolls is 3 or less?

brute force method

(11)	(12)	13	14
(21)	22	23	24
31	32	33	34
41	42	43	44

sample space - complete list of all outcomes

$$P(\text{sum is} \leq 3) = \frac{n(\text{sum} \leq 3)}{n}$$

$$= \frac{3}{16}$$

At the Red Barn Market, you can get an ice-cream cone with two scoops of ice-cream. Assuming that you choose two different flavours for your scoops, and that when averaged over all customers, each flavour

is equally likely, compute the following probabilities. Consider the cone with vanilla on top to be equivalent to vanilla on the bottom. The flavors available are: chocolate, vanilla, raspberry, and wasabi.