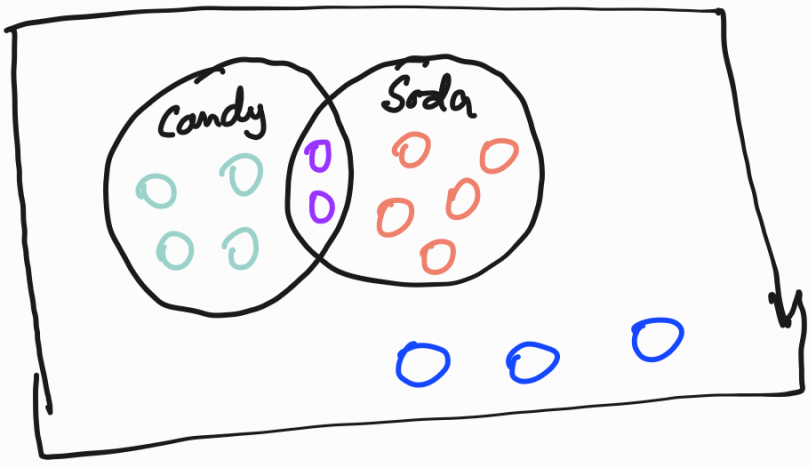
Conditional Probability



same info

Contingency Table

	Candy	No Candy	Total
Soda	2	5	7
No Soda	4	3	7
Total	6	8	14

$P(\text{soda and candy}) = \frac{2}{14}$

$P(\text{candy only}) = \frac{4}{14}$

$P(\text{Soda only}) = \frac{5}{14}$

$P(\text{No soda and no candy}) = \frac{3}{14}$

$P(\text{loves candy and soda} \mid \text{loves soda}) =$

$$= \frac{2}{2+5}$$

$$= \frac{2}{7} = 0.29$$

$P(\text{not love c and love s} \mid \text{love s})$

$$= \frac{5}{2+5}$$

$$= \frac{5}{7} = 0.71$$

$P(\text{not love c and loves s} \mid \text{loves s})$

$$= \frac{P(\text{not love c and loves s})}{P(\text{loves s})}$$

Bayes Theorem