

Stat 7

10-29-19

R-37 $P(Y) = \frac{81}{106} = 76\%$

$$P(Y|F) = \frac{29}{49} = 59\%$$

$$P(Y|M) = \frac{52}{57} = 91\%$$

✓ not independent

Q. Is there an association between gender and MLP or are they independent?

A. G and MLP are strongly dependent (strong association)

R-51 $P(DP) = \frac{36}{326} = 11\%$

$P(DP|DW) = \frac{19}{160} = 11.9\%$
 death penalty ↑ def white

DP = outcome

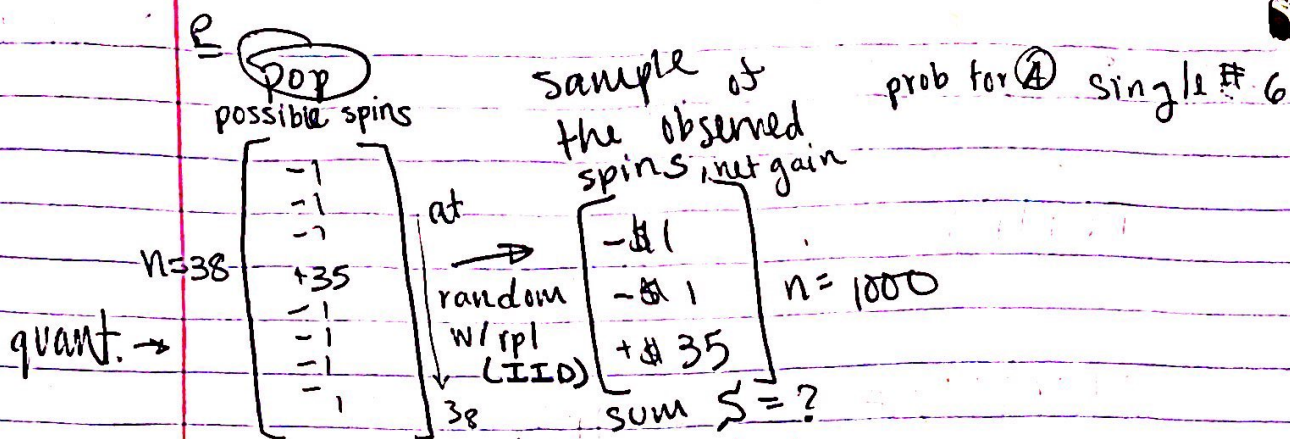
$$P(DP|DB) = \frac{17}{166} = 10.2\%$$

Assoc.? yes: (DB → DW) DP ↑

R-52 $P(\text{coming out ahead, 1 play } \textcircled{A}) = \frac{1}{38} = 2.5\%$

ELM? yes

$P(\text{differ } \textcircled{B}) = \frac{2}{38} = 5\%$



your net gain after 1,000 \$1 bets on a single # is like the sum S of $n=1,000$ IID drawn from pop P

~~pop SD~~ pop median $M =$
 pop SD $\sigma =$

$$M = \frac{(-1) + \dots + 35}{38} = \frac{\$-2}{38} = \$-0.05$$

On any single \$1 bet, you expect to win

$\$ -0.05 = \mu$, give or take abt \$5.76

$\sigma = ?$ if the pop has only 2 values in it, then

$$r = (\text{large value}) - (\text{small value}) \cdot \sqrt{\left(\frac{\text{proportion of large value}}{\text{pr. of small value}}\right)}$$

$$\sigma = 35 - (-1) \cdot \sqrt{\frac{37}{38} \cdot \frac{1}{38}} = \$5.76$$