

Discussion
Section

week of 13-17 Apr 20

STAT 31
13 Apr 20

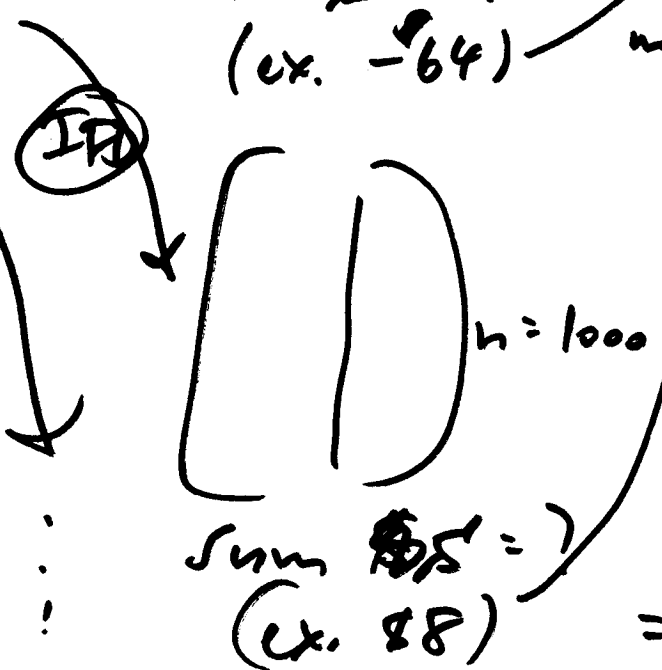
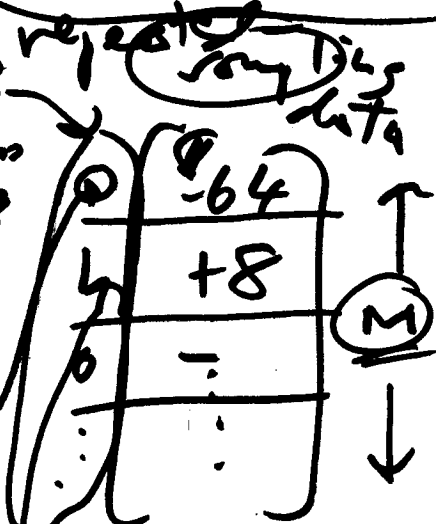
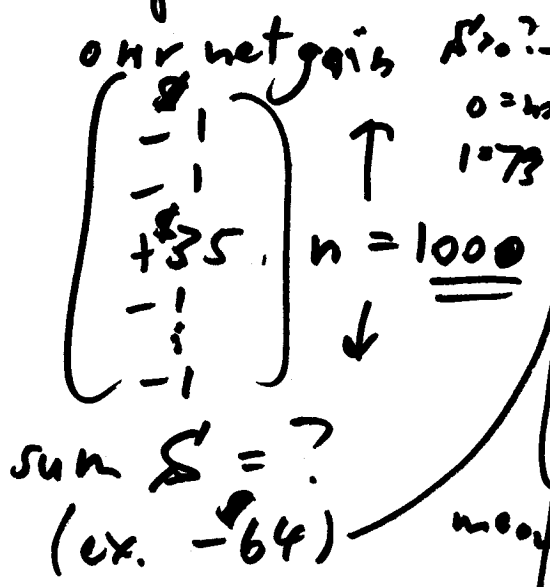
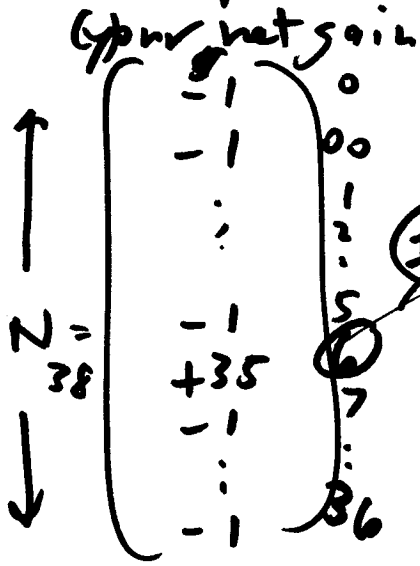
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freeware
data science environment

pop possible spins

single sample the observed spins

(R) data science environment



"p-hat"
 $\hat{p}(S > 0)$
estimate of $p(S > 0)$
 $= \frac{(\# \text{ of } S > 0)}{M}$

ELM?
yes

$= p(S > 50) = ?$

$P(\text{we come out ahead after } n=1000 \text{ \$1 bets}) = ?$
on a single #

our net gain after $n = 1000$ \$1 bets ②

on a single #

real world

is like

the sum S
math world

at $n = 1000$ IID draws from pop ③

Nick
Metropolis
&
Stanislaw
Ulam
(1942)

Monte Carlo method :
approximate probabilities
via random simulation

Buffon
(1733)