Interview

→ Direct

→ Scenario - Based
- Dataset

→ Coding / Simulations

fill any gaps

Industry survey

2 or 3 senior AI / ML / DS

→ Each module

→ interview

Multiple ways of attacking

Q1

① $P[I_2 = 0] = 0.5$

50% of the people who give the first round are called for the 2nd round

② $P[G_1 = 1 \mid I_2 = 1] = 0.95$

95% of the people who get invited for the 2nd round feel "good" about their 1st round

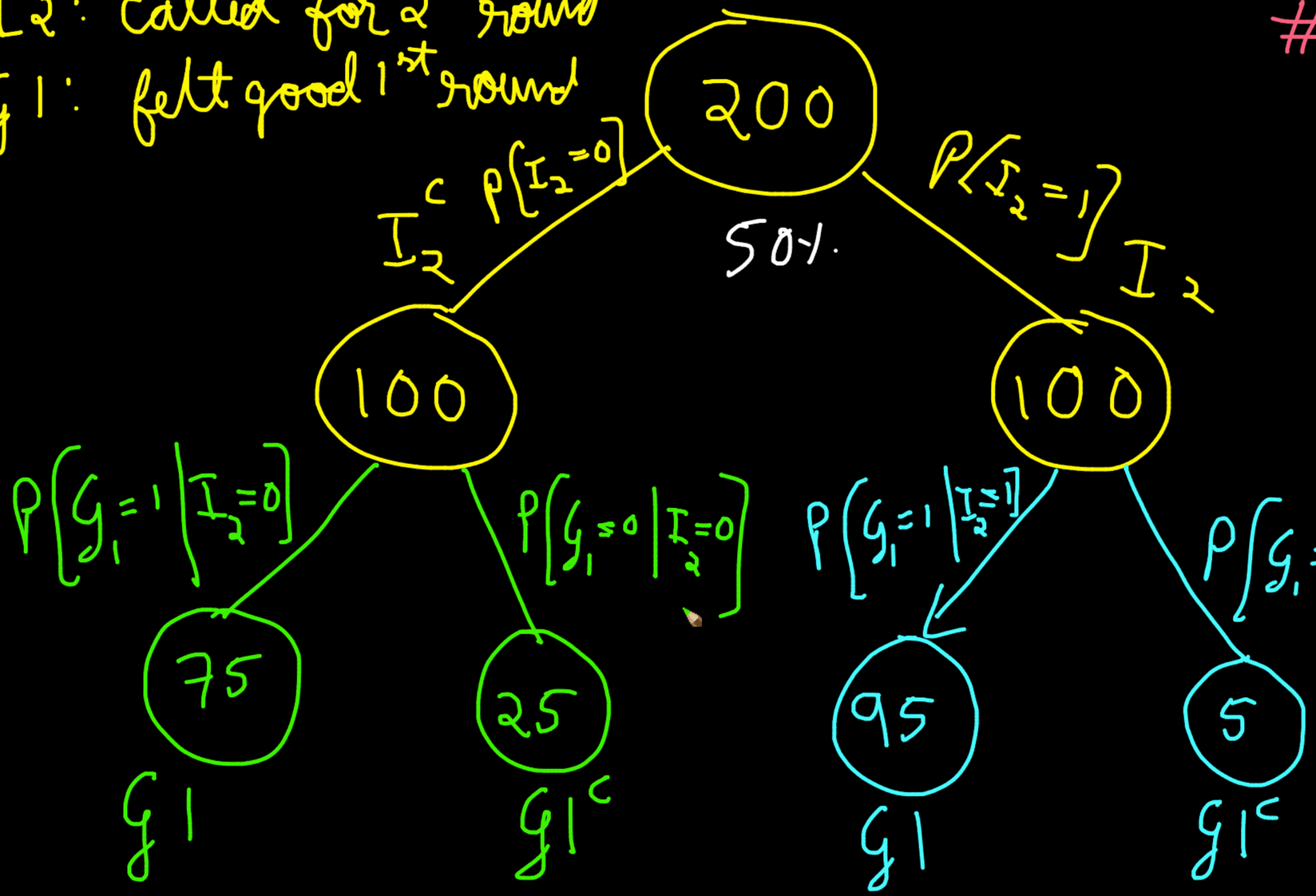
③ $P[G_1 = 1 \mid I_2 = 0]$

75% of the people who did NOT get invited for 2nd round also felt "good" about their first round

Given that you felt you had good 1st interview, what is the prob. of being invited for the 2nd

I_2: called for 2nd round

G_1: felt good 1st round



people who felt good ? 75+95=170

Among these 170, how many cleared 1st round

$$\frac{95}{75+95}$$

$$P\left[\underbrace{I_2=1}_{A} \,\middle|\, \underbrace{G_1=1}_{B}\right] = \frac{P[G_1=1 \mid I_2=1]\, P[I_2=1]}{P[G_1=1]}$$

$$P[A|B] = \frac{P[A \cap B]}{P[B]} = \frac{P[B|A]\,P[A]}{P[B]} = \frac{(0.95)(0.5)}{(0.75)(0.5)+(0.95)(0.5)}$$

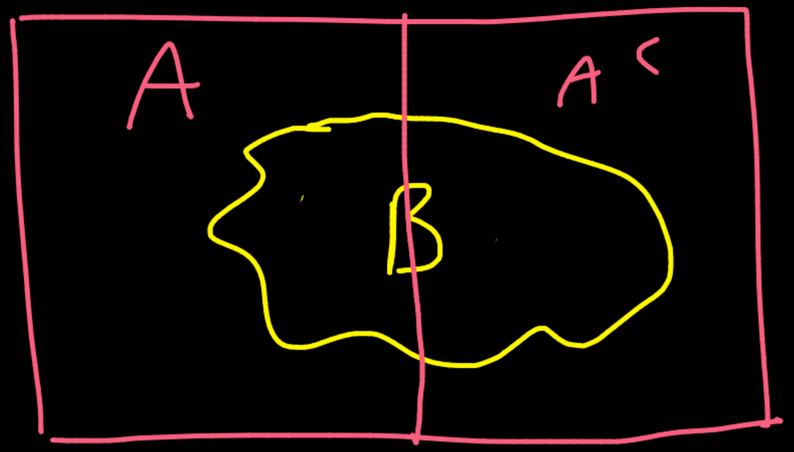
$$P[G_1=1] = P[G_1=1 \mid I_2=0]\,P[I_2=0] + P[G_1=1 \mid I_2=1]\,P[I_2=1]$$

$P[B]$

$$= (0.75)(0.5) + (0.95)(0.5)$$

$$B = \{G \mid 1 = 1\}$$

$$A = \{I_2 = 1\}$$



$$B = (B \cap A) \cup (B \cap A^c)$$

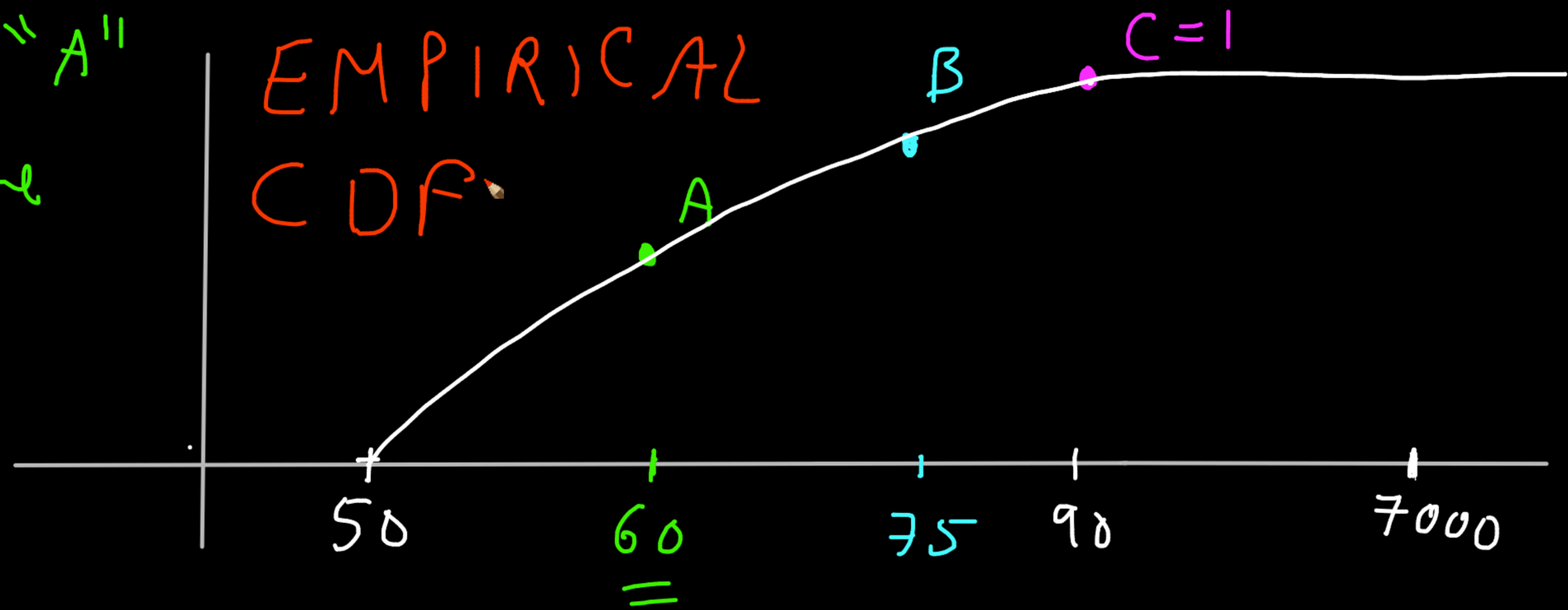
$$P[B] = P[B \cap A] + P[B \cap A^c]$$

$$= P[B|A]P[A] + P[B|A^c]P[A^c]$$

Q2] Given a dataset (heights of people) Write a function to plot the CDF

CDF at 60 is "A"
Fraction of the people whose heights ≤ 60

B: Frac people H ≤ 75



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Mon 11 Jul 11:15 PM

Q3] Simulate "dice" from uniform(0,1)

no using randint choice X

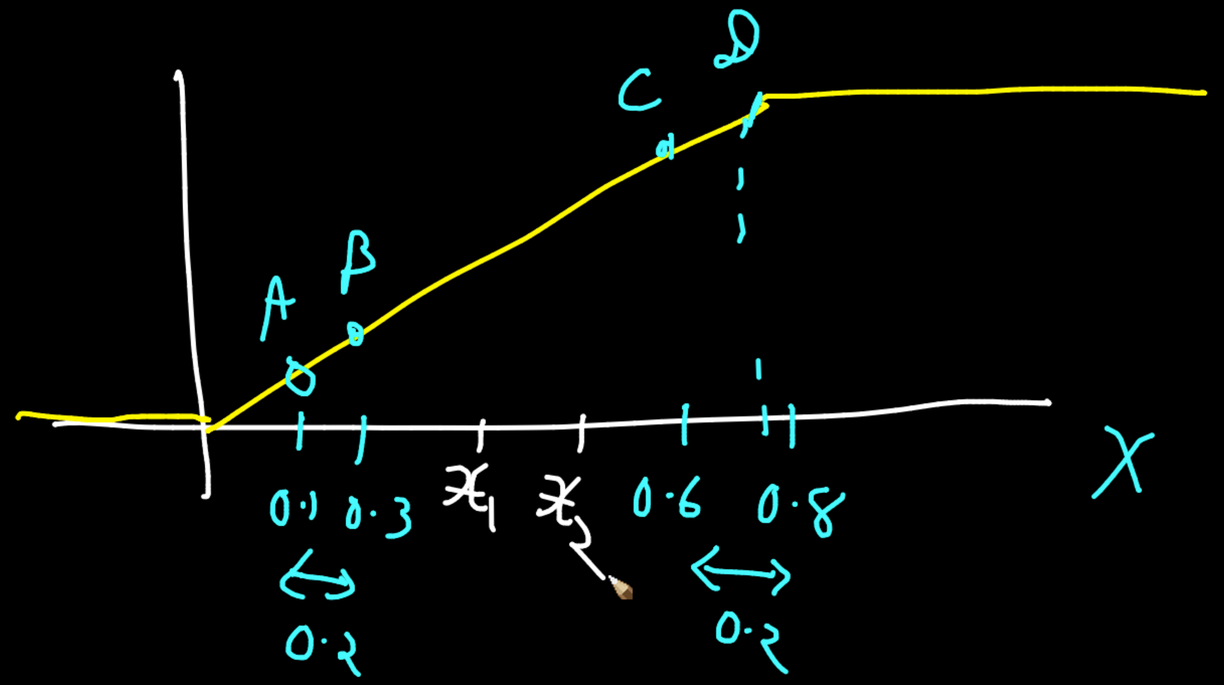
Simulate [3, 1, 4, 5, 1, 4, 2, 6, 5, ...] 1000000

What fraction of the tosses are "4" $\simeq \frac{1}{6}$

Starting point:

[HW: Simulate dice from "coin"]

Uniform [0, 1] → CDF



A: frac of points ≤ 0.1

B: frac of points ≤ 0.3

$P[A \leq X \leq B] = B - A$

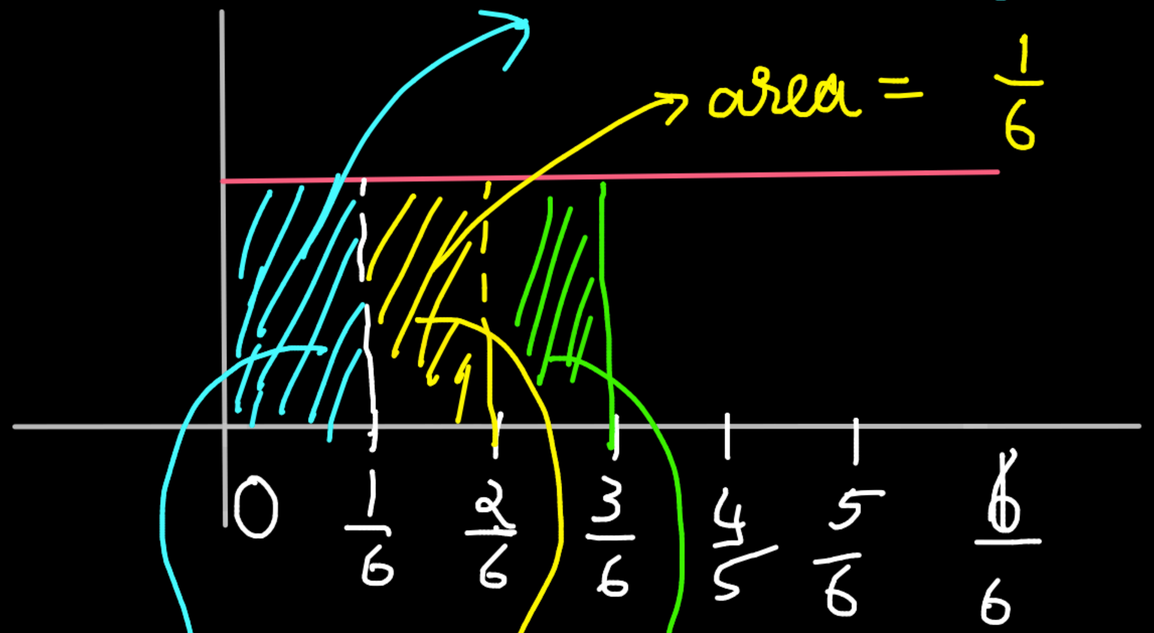
$P[C \leq X \leq D] = D - C$

same interval length

If $B - A = D - C$

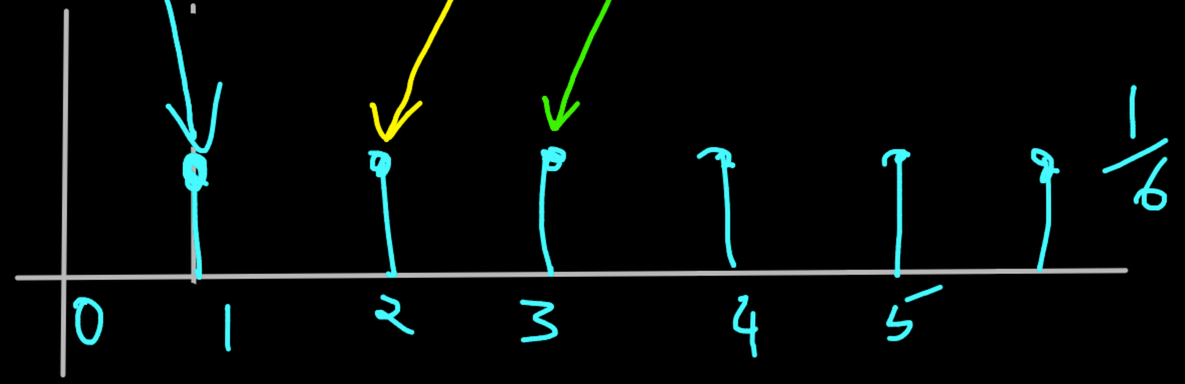
Prof (x_1, x_2)

PDF of uniform [0, 1)



$$\frac{0 \cdot 1738}{6}$$

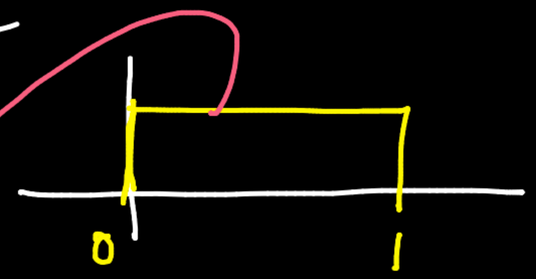
PMF of dice

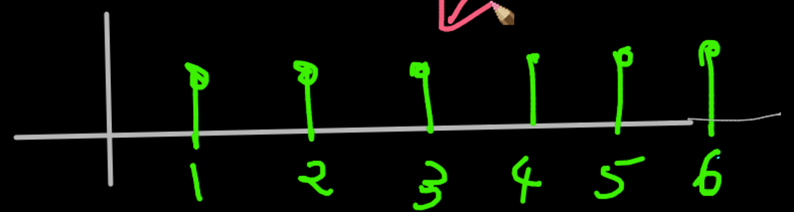


Recap: Dice from uniform

data → [0.178, 0.812, 0.361, 0.92, ...]

between 0 & 1





Goal: data_dice

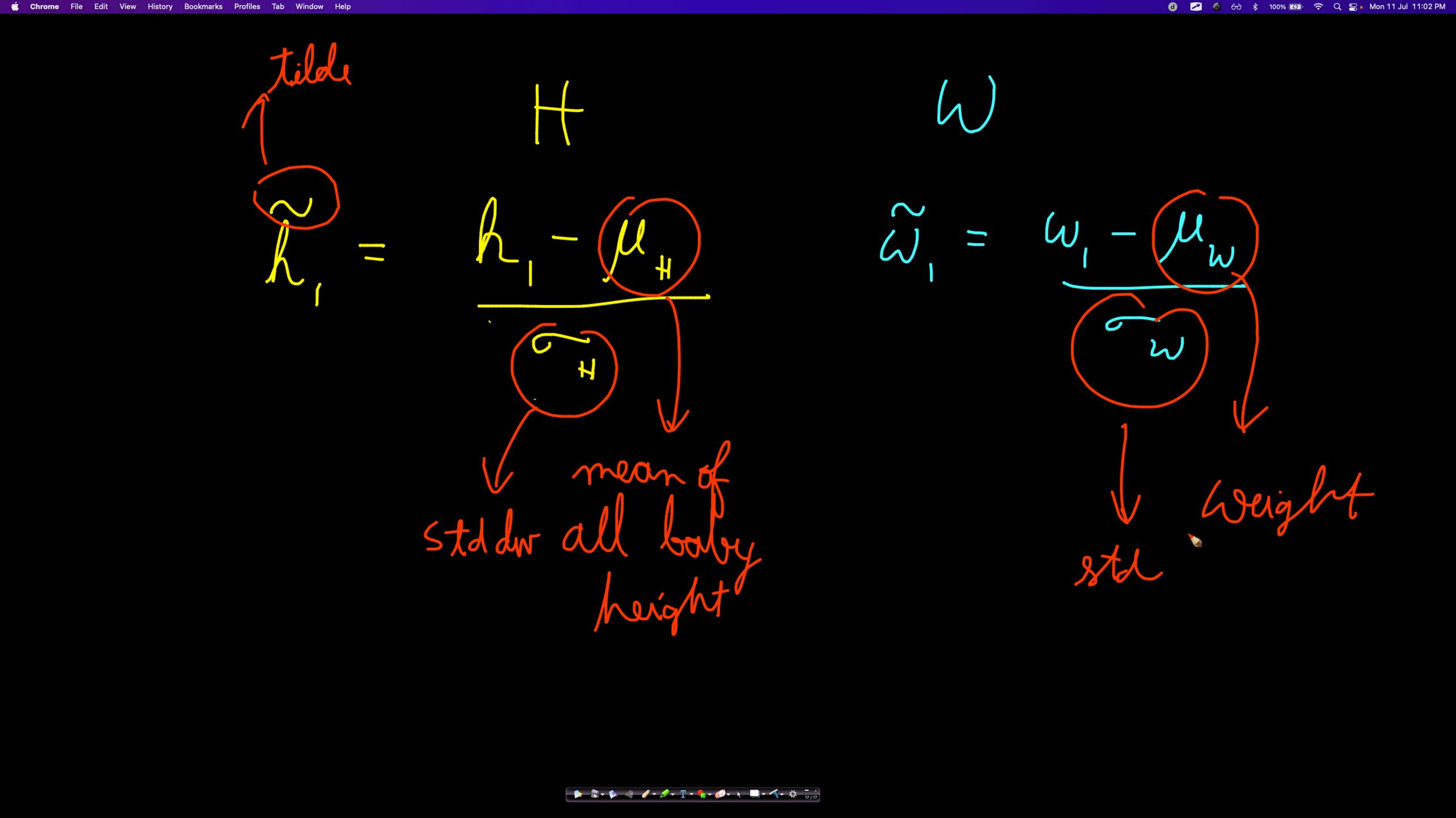
[2, 5, 3, 4, ...]

What is Z-Score?

Doctor / Parent

Baby's height weight

very thin / underweight | normal | chubby.



Standardized

	$\tilde{h}$	$\tilde{w}$	
1)	-0.5	-0.7	→ underweight
2)	0	0	→ normal
3)	1	0	→ (Tall) underw
4)	1.2	1.3	→ Tall & normal
5)	0	1	→ chubby

Cricket

ex- test ar

ex- IPL ar

5-0

	Test	IPL
Such	55	20
Seh	51	21
Dravv	52	18
Gayle	35	27
Dhoni	40	25

	Test	IPL
Dravid	1	−0·2
Gayle	−0·5	1·2