This meeting is recorded for Cpts 515 students.

I define, for a walk ω,
the nondet. choice count as

$$\#(\omega).$$

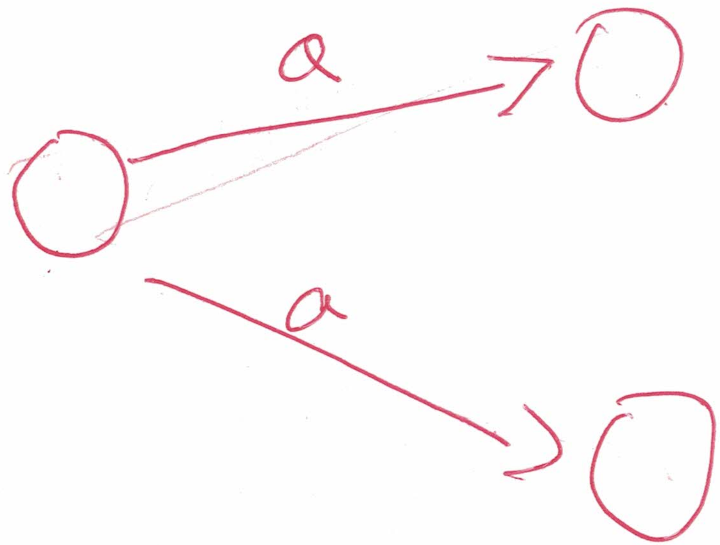
I use n to denote the length of ω.

Key: nondet. measure on ω shall be

① $\#(\omega)$

OR

② $\dfrac{\#(\omega)}{n}$. OR ③ $\dfrac{\log \#(\omega)}{n}$.



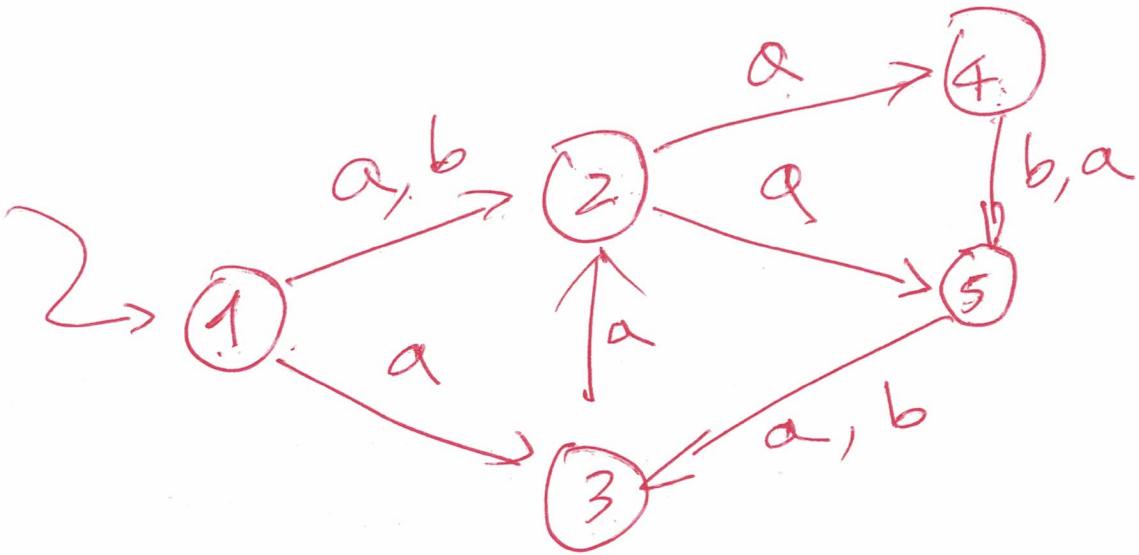
2 choices.

$\log_2 2 = 1$ bit.

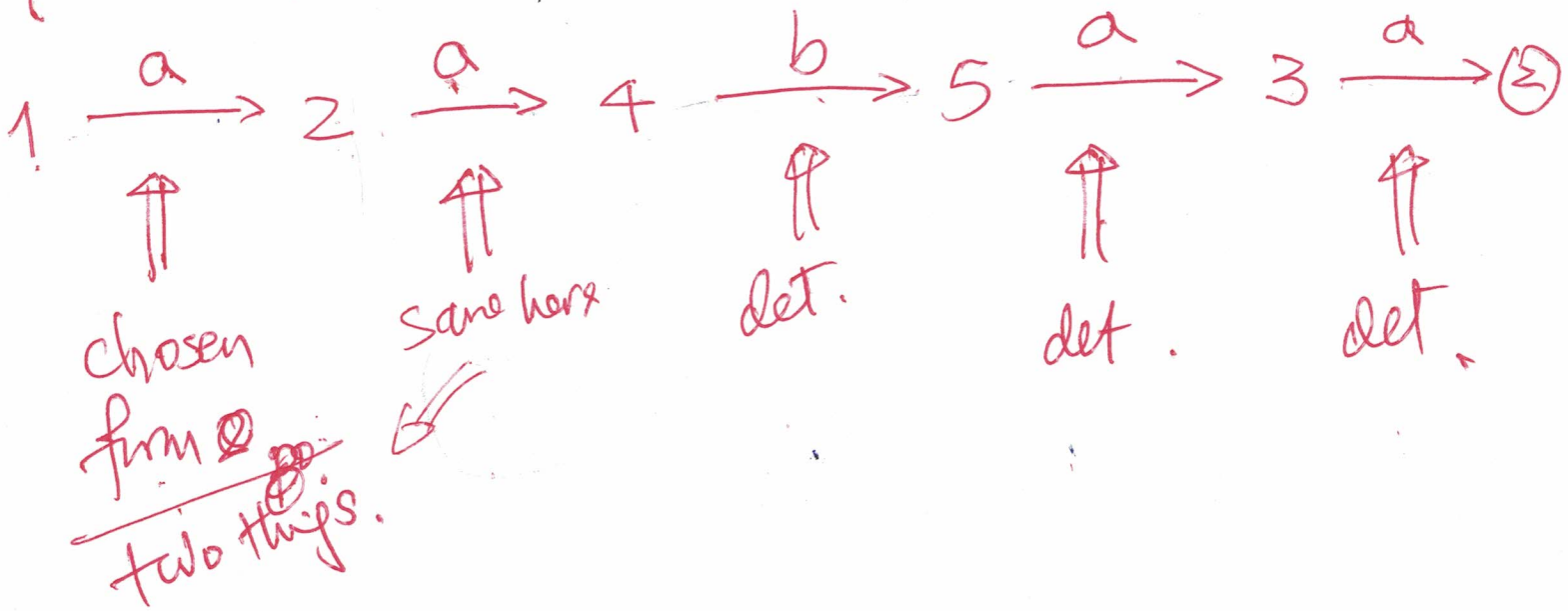
$$\#(w) = 2 \cdot 2 \cdot 1 \cdot 1 \cdot 1$$

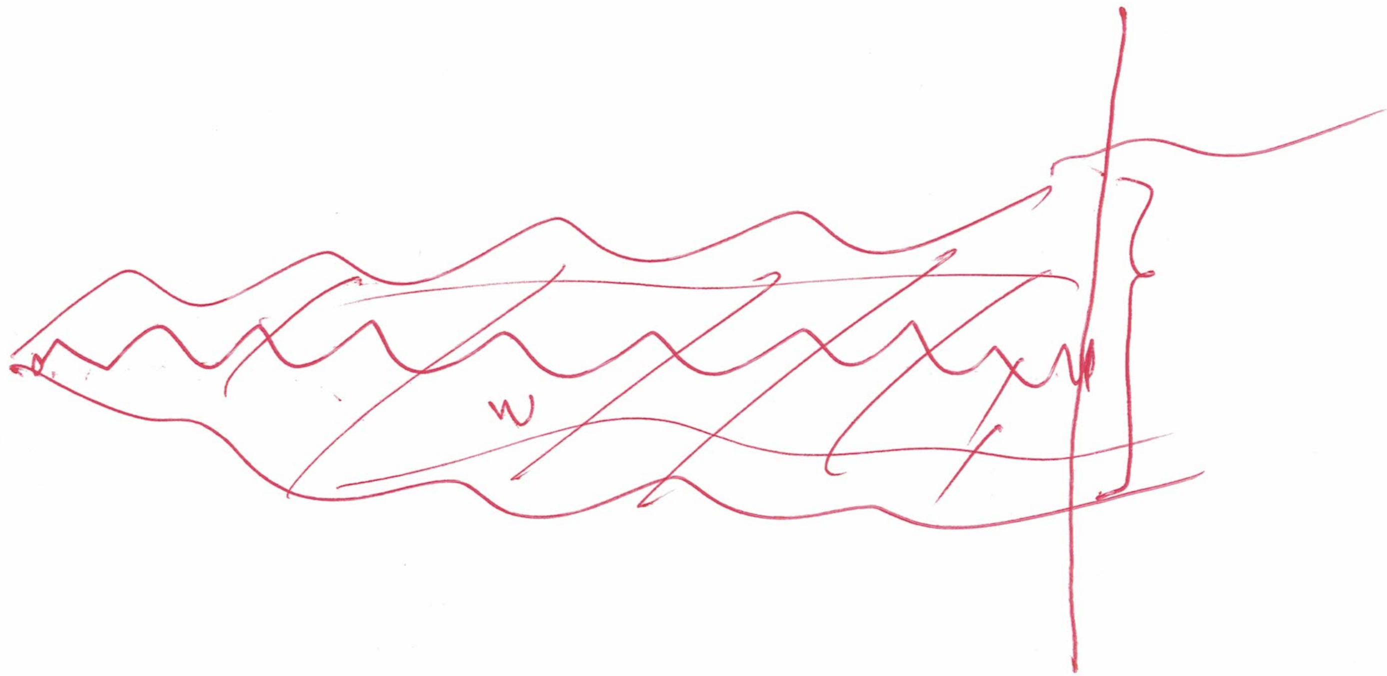
$$\frac{\log_2 \#(w)}{5} = \frac{2}{5} = 0{,}4 \text{ bit}$$

$$2^{0{,}4} = l.$$

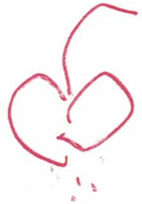


Example walk:




ten.
Cone.

Chosen from

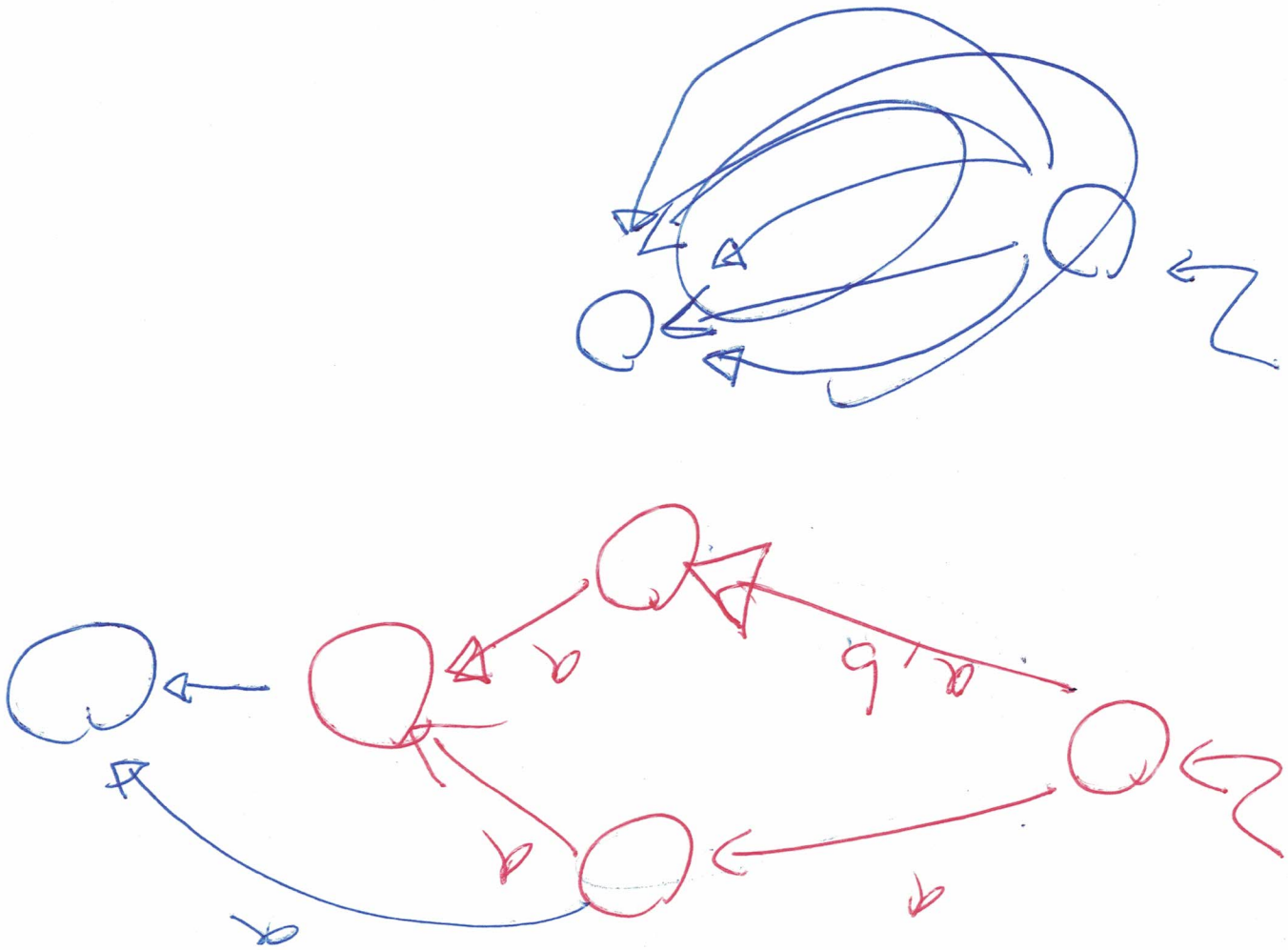


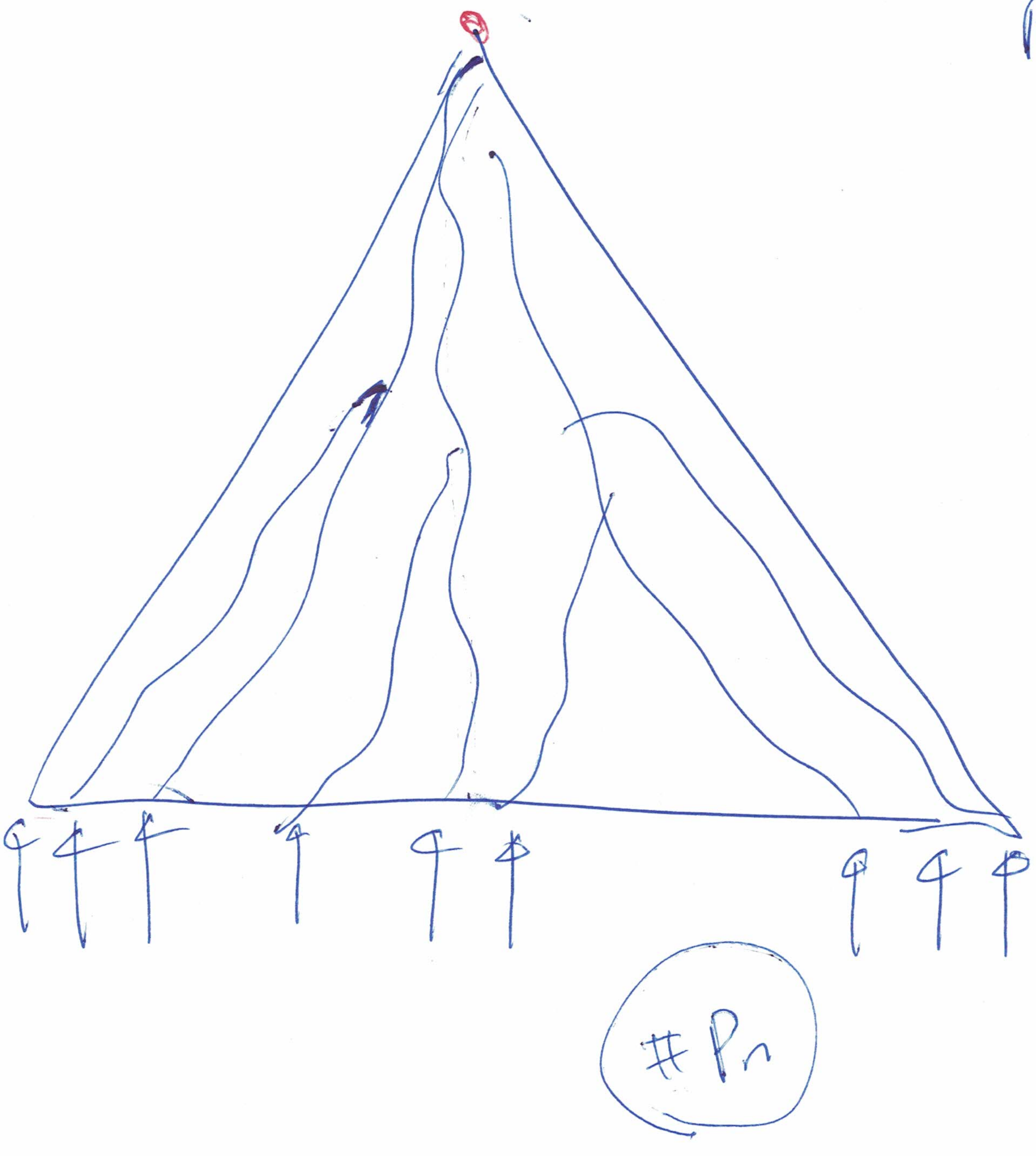
how much is the nodet my choice?

nondet. of this apple

has nothing to do this apple.

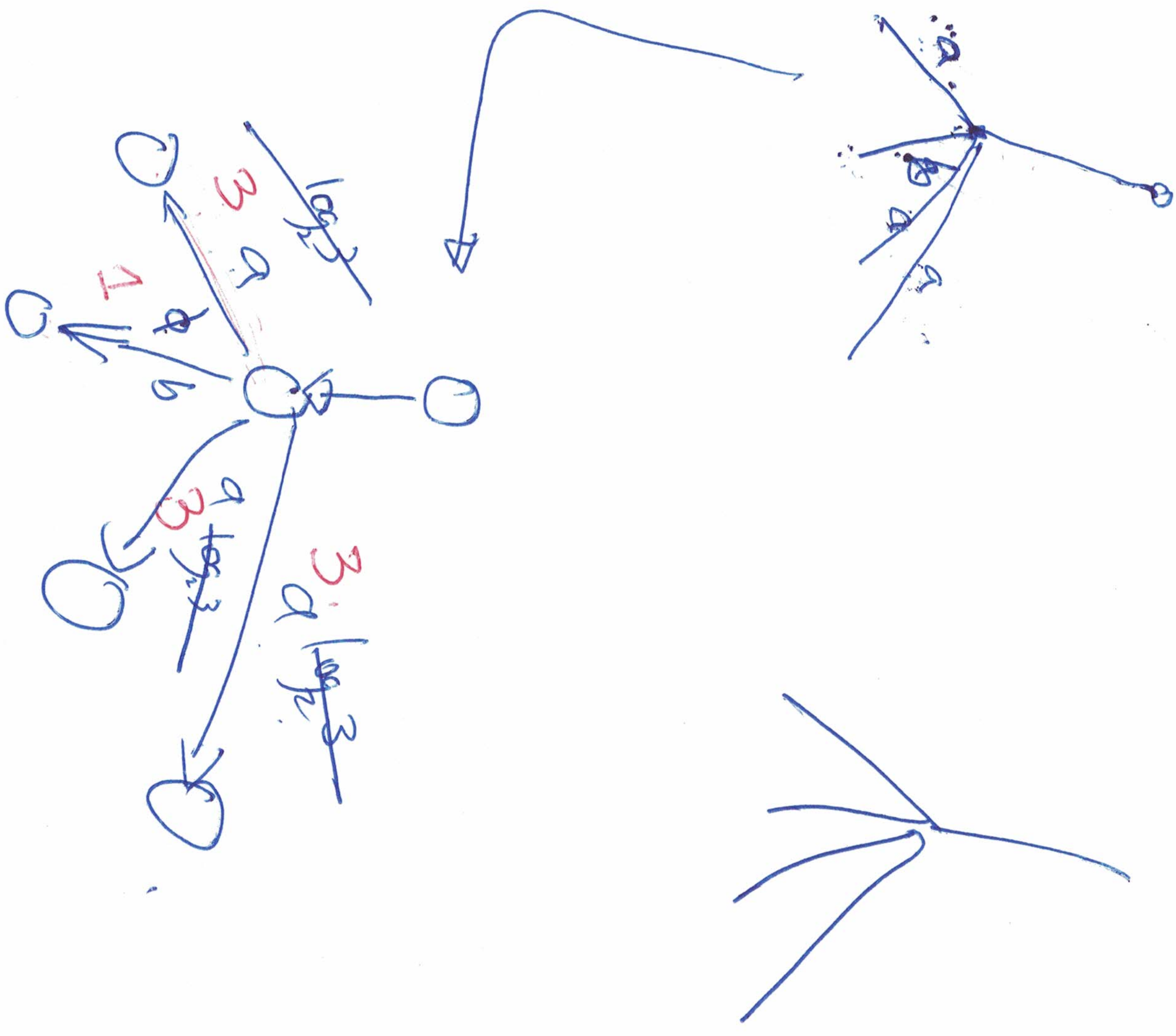
it is directly dep on (or only dep on). the # of apples it was chosen from.


b
q / b
p
b



Pn.

form a tree



P_n : the set of all walks in L with length n.

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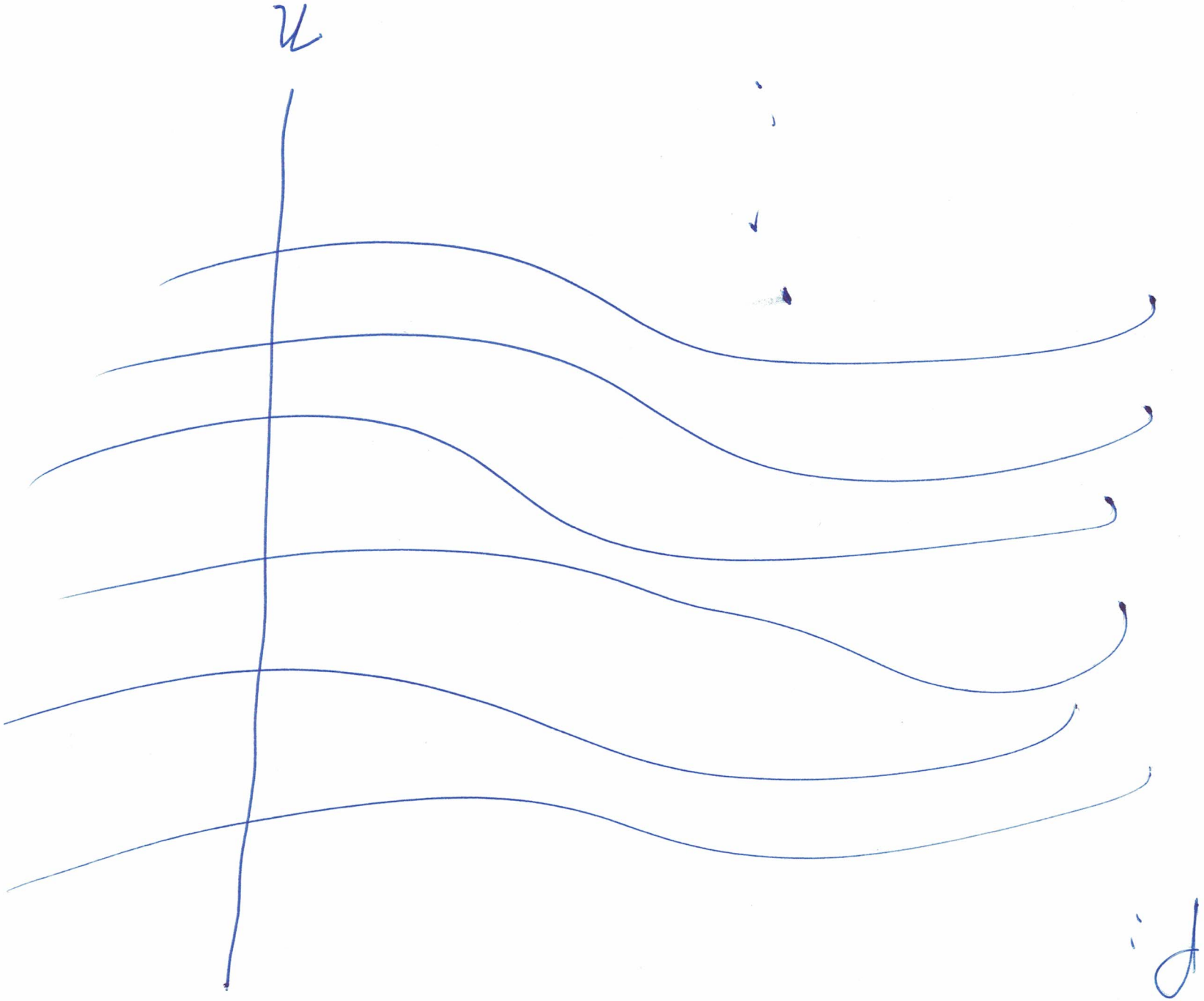
you can't do:

for each $w \in P_n$,

I compute $\dfrac{\log_2 \#(w)}{n}$.

Then I take average on all such w.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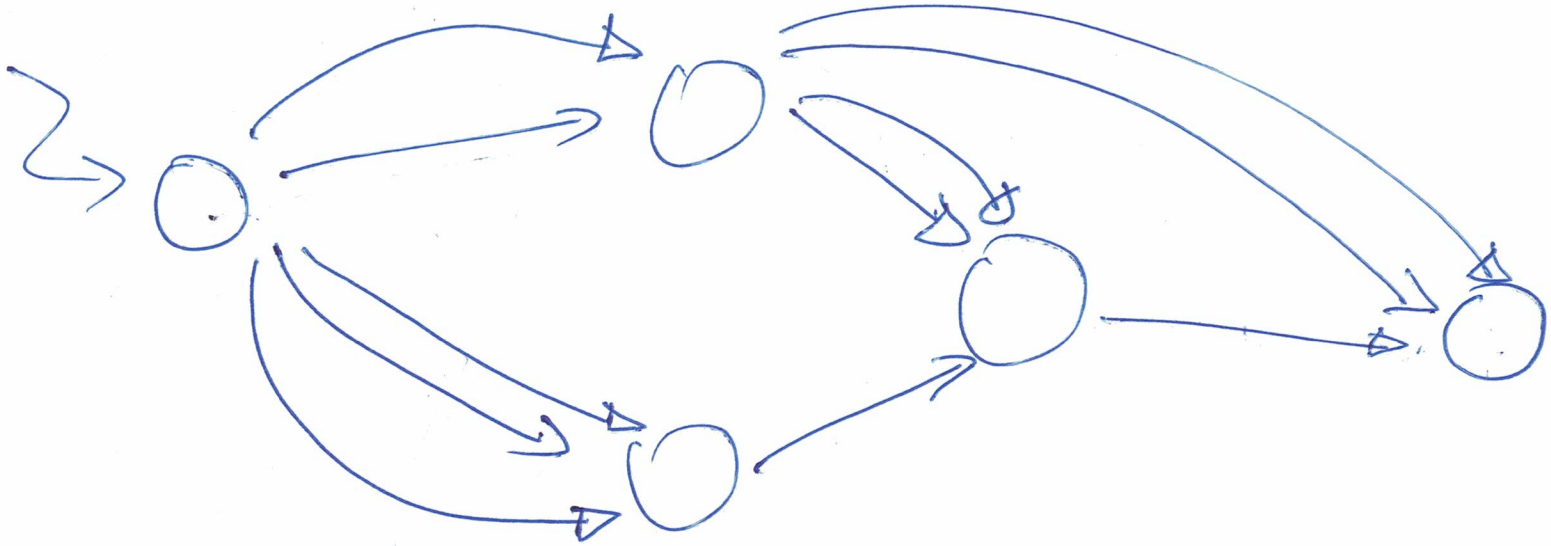


total # of leaves with height $n = 3$.

$$= 2 \cdot 2 \cdot 1 + 3 \cdot 1 \cdot 1$$

$$\limsup_{n\to\infty}\left[\frac{\log \#P_n}{n} - \frac{\log \#P'_n}{n}\right]$$

before you do modi.

Next: (Google).

relate $\#P_n$ to path count.

relate path count to matrix multiplication.

adjacent

relate matrix multiplication to

Perron number.

Perron number of a matrix.

graph ⟶ matrix ⟶ largest eigen val = Perron number.

M is the adjacent matrix of G.

$$M \cdot M = M^2$$

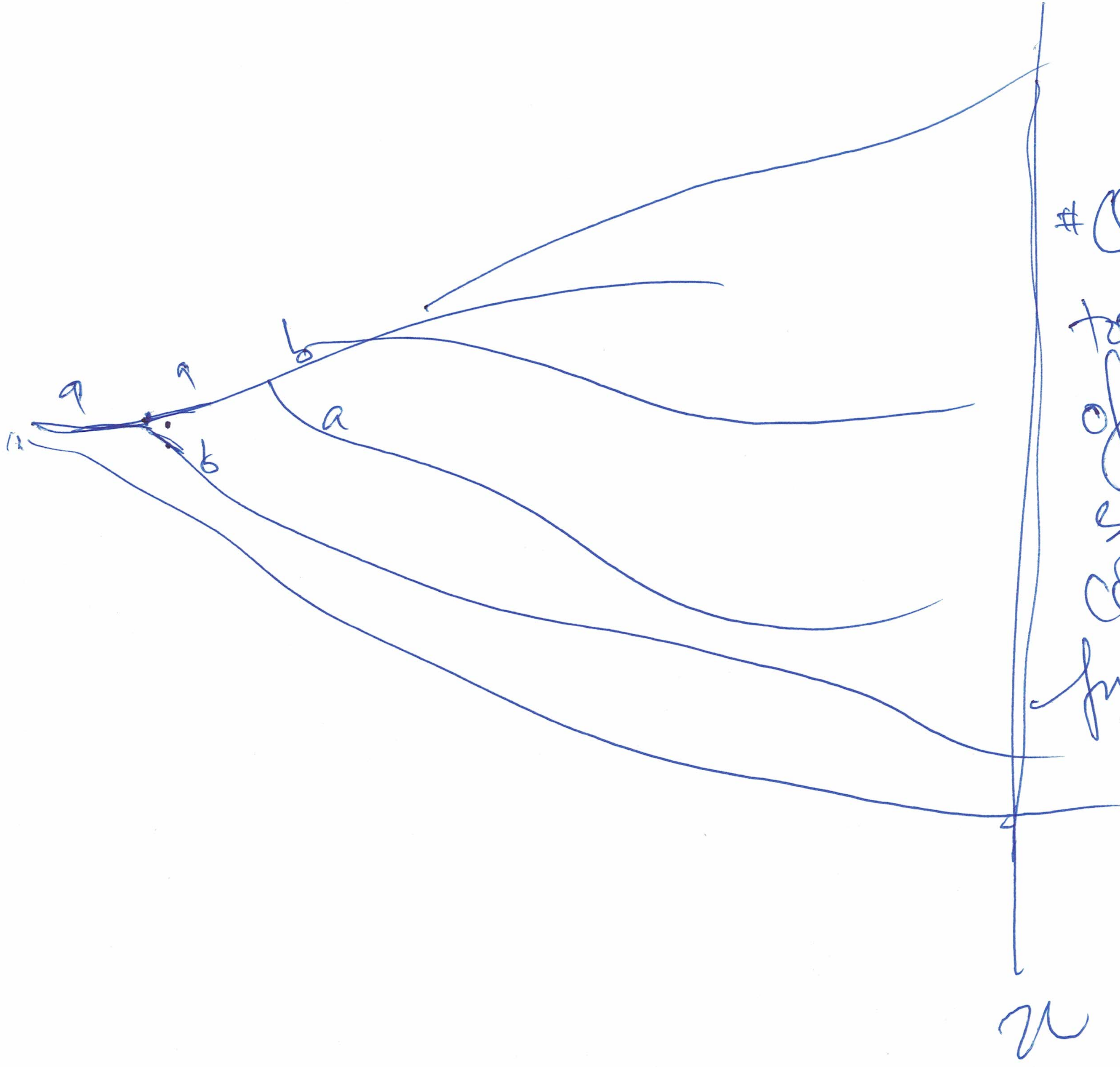
$$|M^n| = \#P_n .$$

$$\lim_{n\to\infty} \frac{\log |M^n|}{n} = \log \lambda .$$

Perron.

Perron - Frobenius Theorem.

Spectrum Graph Theory.



$\# Q_n$: total # of color sequences collected from walks in G with length n.