

AI
Artificial
Intelligent

Foundation of Gen AI

Chat GPT

Vikram is a _____ student.
good ← Human
↑ computer

Dhurandhar

spy movies
Hindi movies

which movie
next?

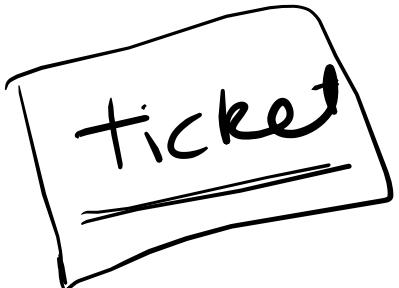
AI

10 photos → Navita
②

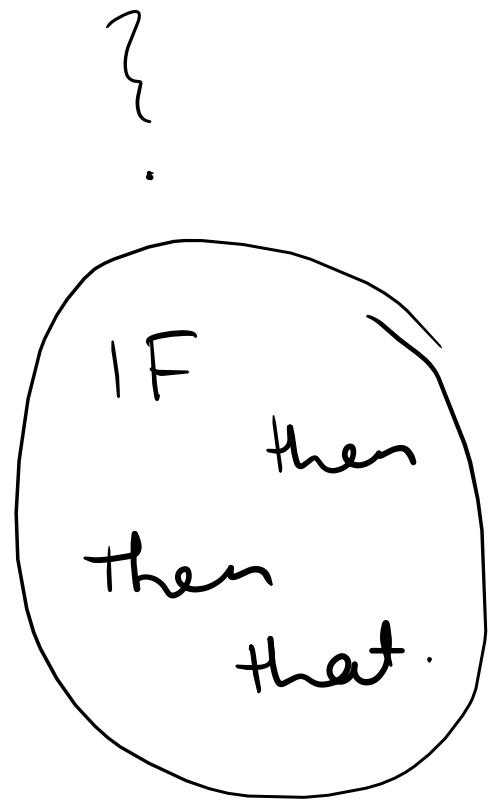
AI
Rule based systems

temp > 100°

⇒ Fever

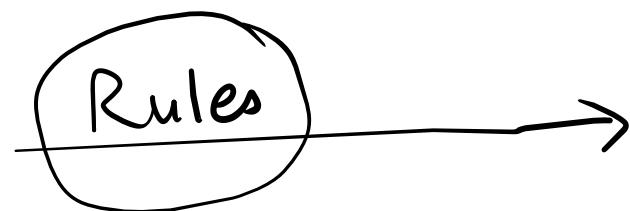


or no ticket



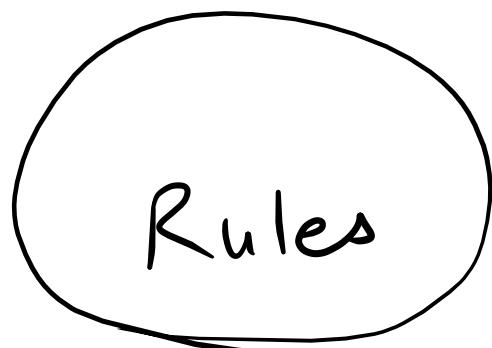
Rules based systems

Inputs



Machine learning

Input

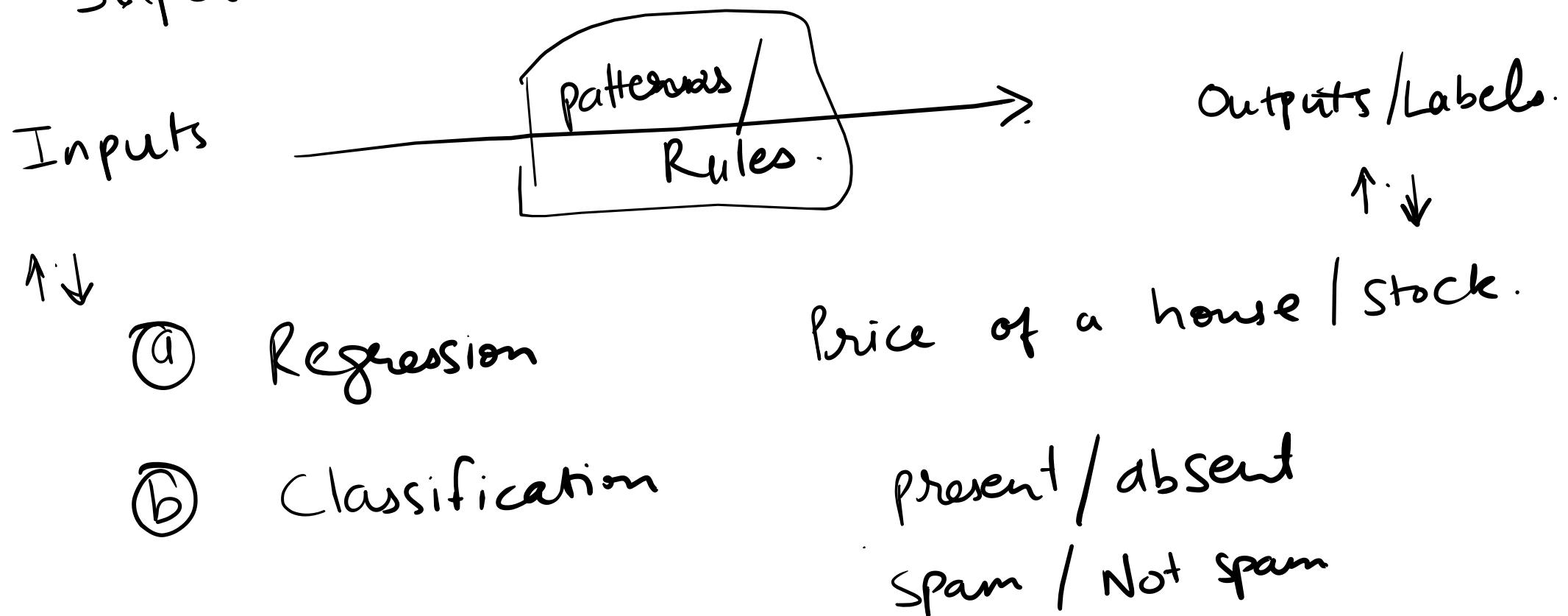


Youtube??

Outputs

ML

① Supervised



②

UR supervised
clustering.

Input



Categories.

Sci Fi , Rom Coms , thrillers

Dishes

North Indian

South Indian

Italian

Deserts

Ingredients

taste

style

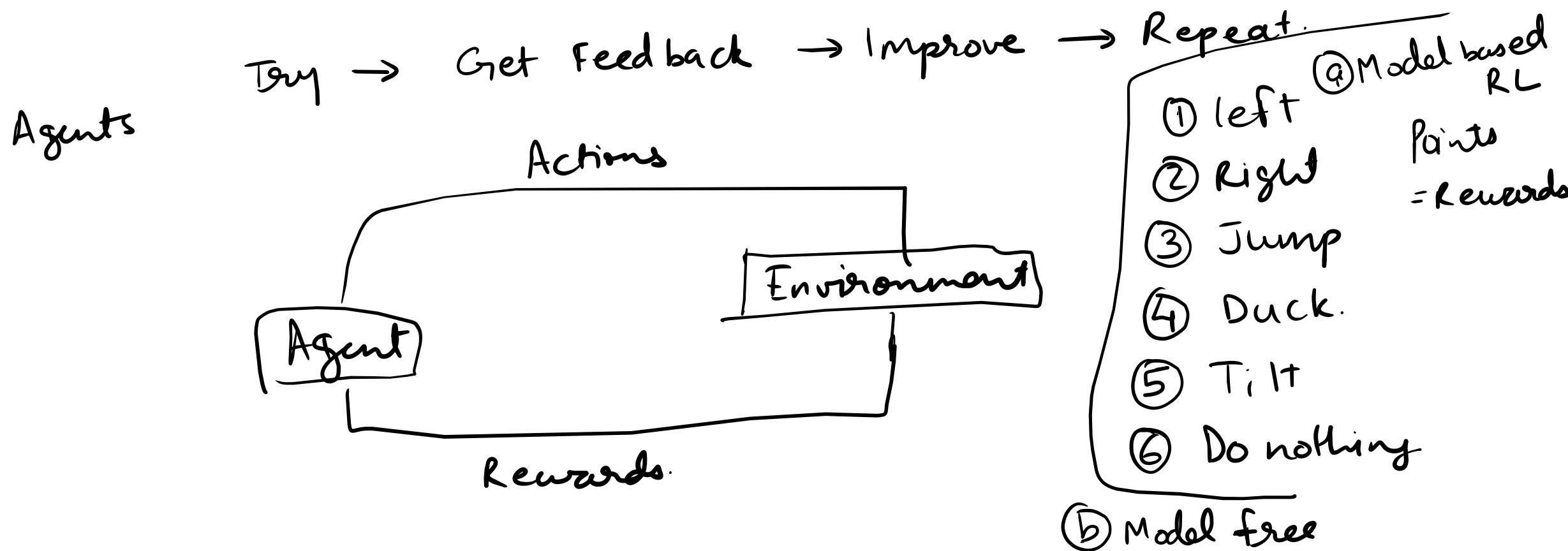
lighting

1000

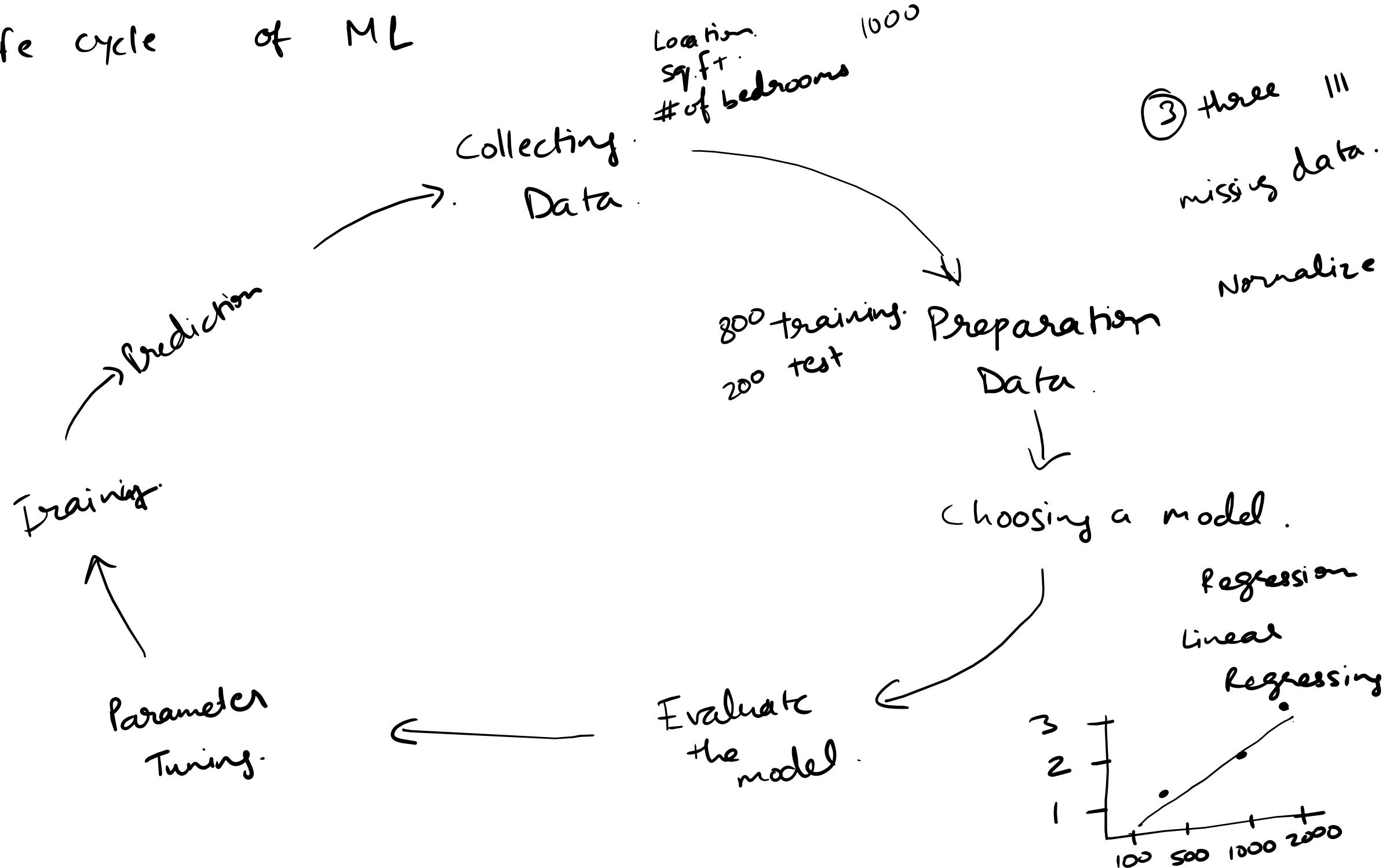
3/4

③ Reinforcement learning → trial error.

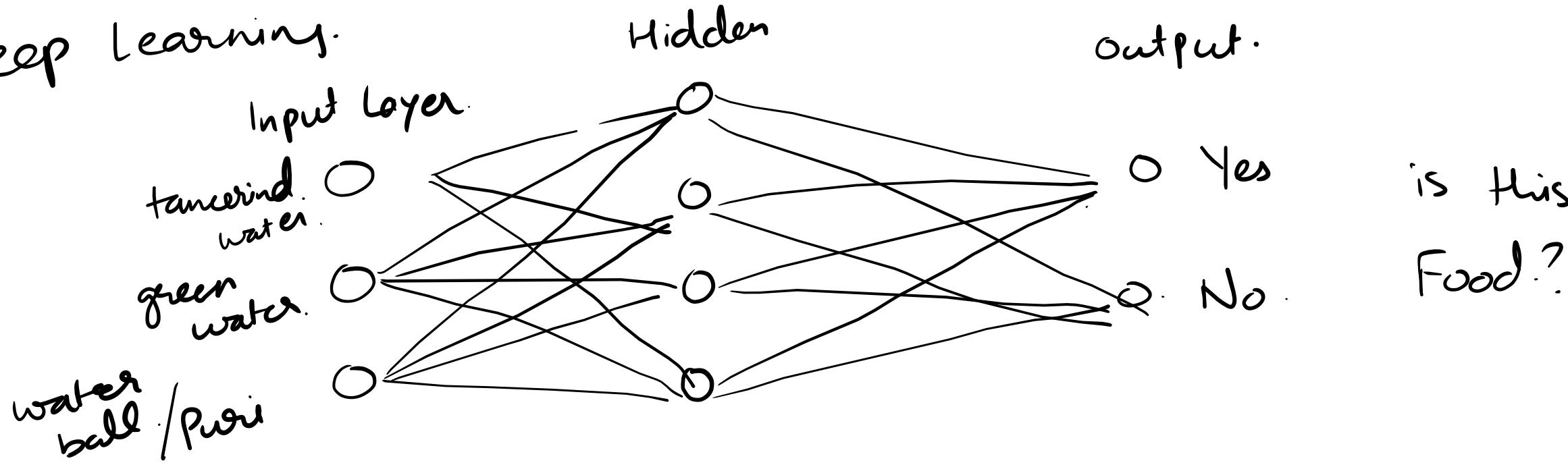
Dog → action
→ sit → reward.
→ lick.
→ bite



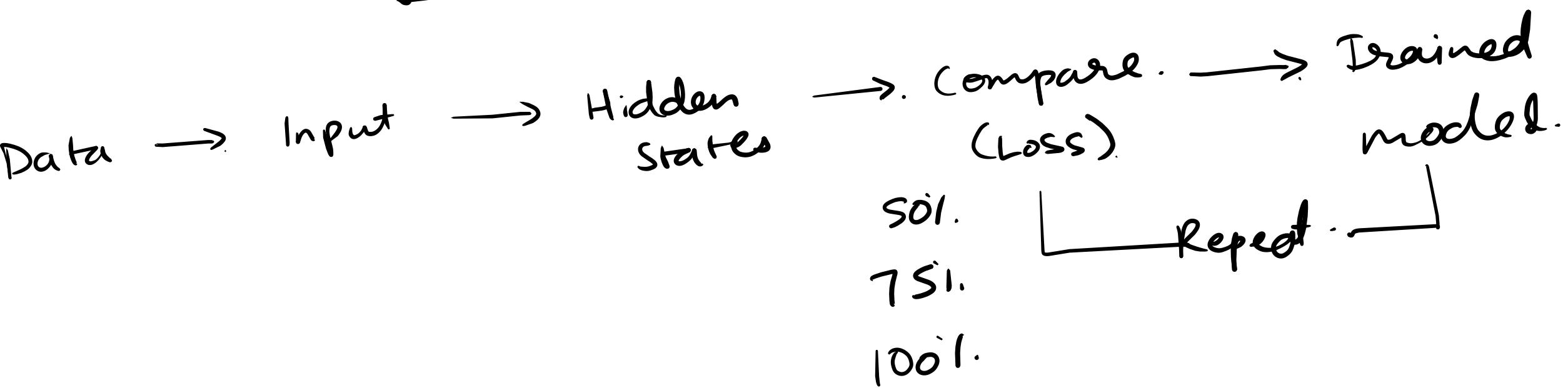
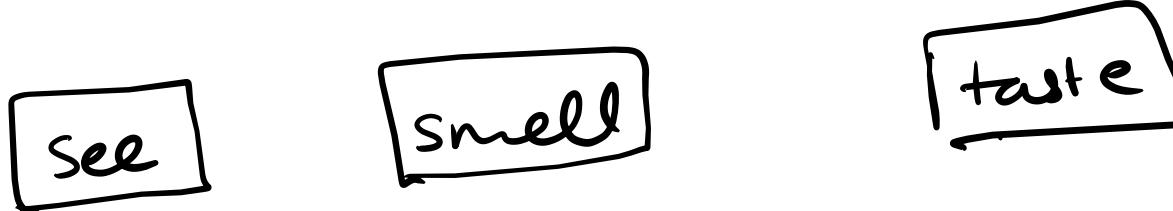
Life cycle of ML



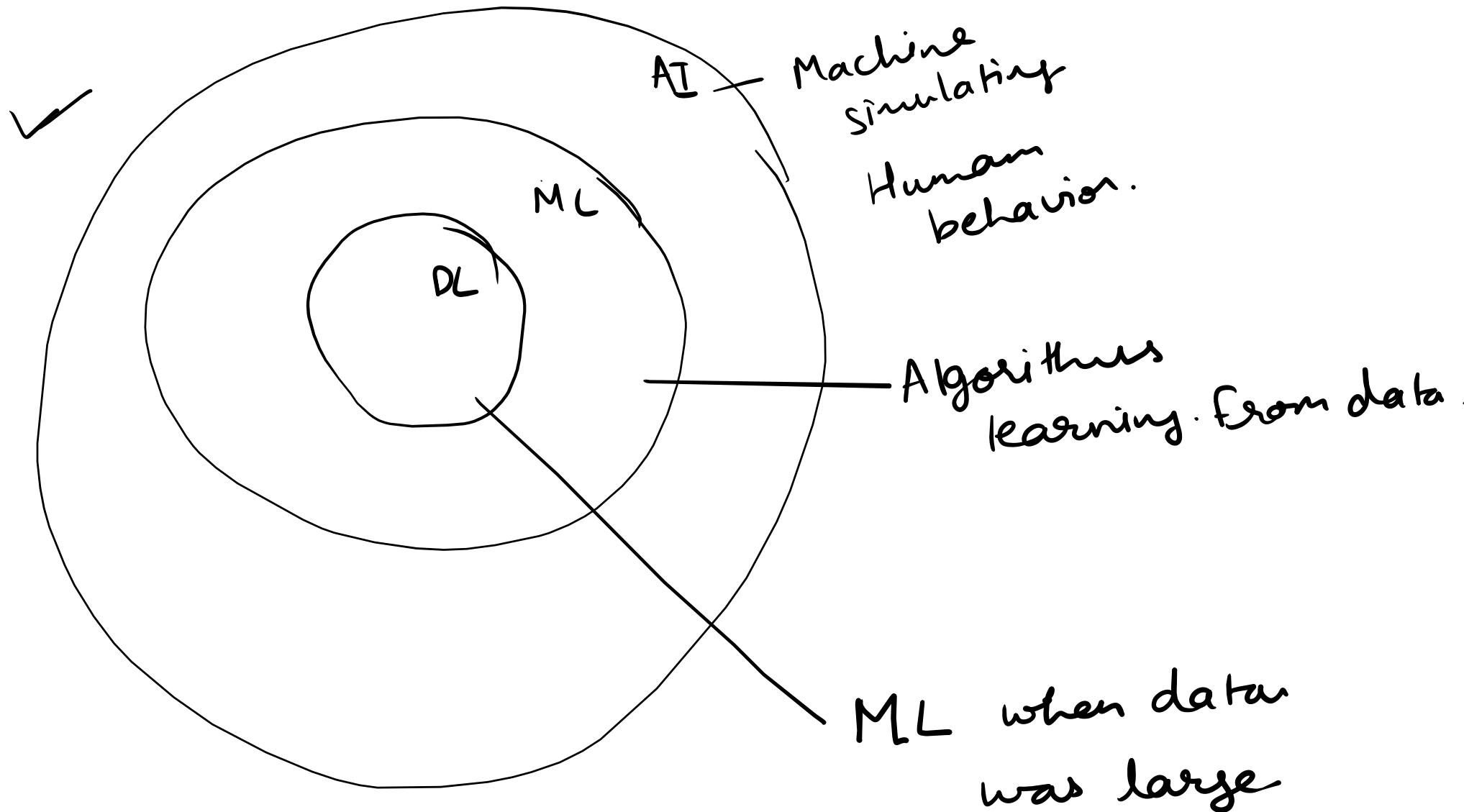
Deep Learning.



Dishes.



~~AI~~ → ML → DL.



Generative AI

AI → we were trying to learn systems / Rules.

GenAI → created new content

Phase 1

1950-70s

1950

Turing

Test

1966

MIT
ELIZA

1970

Markov
chain

// Rules

Phase 2

1980-90s

NN

Boltzmann
machine

Random

Phase 3

2000s

RNNs

memory

Phase 4

2014 - 15

Auto encoders

GANs

generation/
imagination

Phase 5
2017 - 2019

Attention is
all you
need

understanding

①

Temperature

②

Sampling-

①

Temperature.



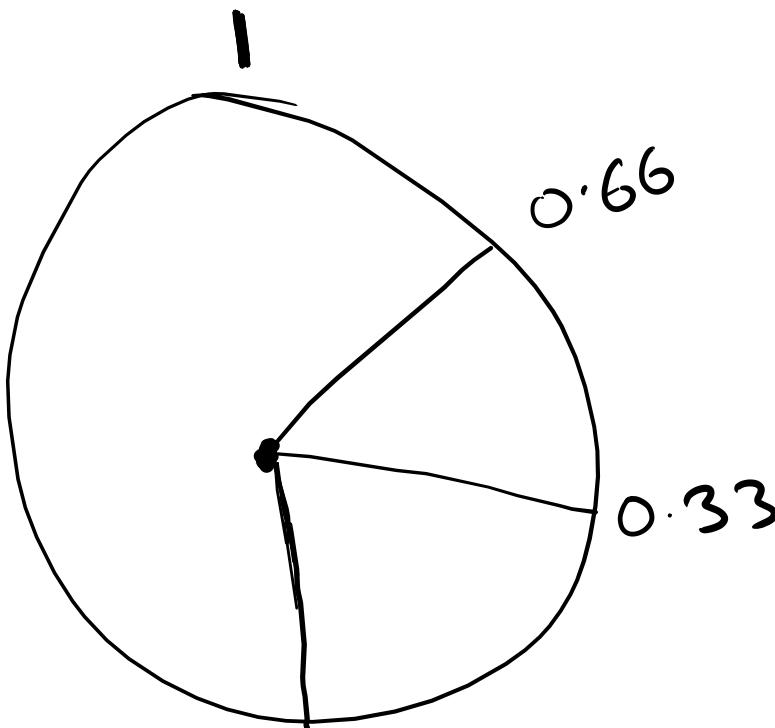
Randomness

0

Nitesh is an _____ student

student

0



[good
hard working.
bright
Smart
excellent]

boy¹
Italian
Indian
Funky.

0.33

0.66

② Sampling

Vijay is a _____
good boy
bad student
excellent person
bright
boy

[bedsheet
traffic signal]

a) Top K.

b) Top P / Nucleus.

What is the capital of France?
top K ($K=5$)

top P

Paris.

London

Berlin

Frankfurt

Delhi

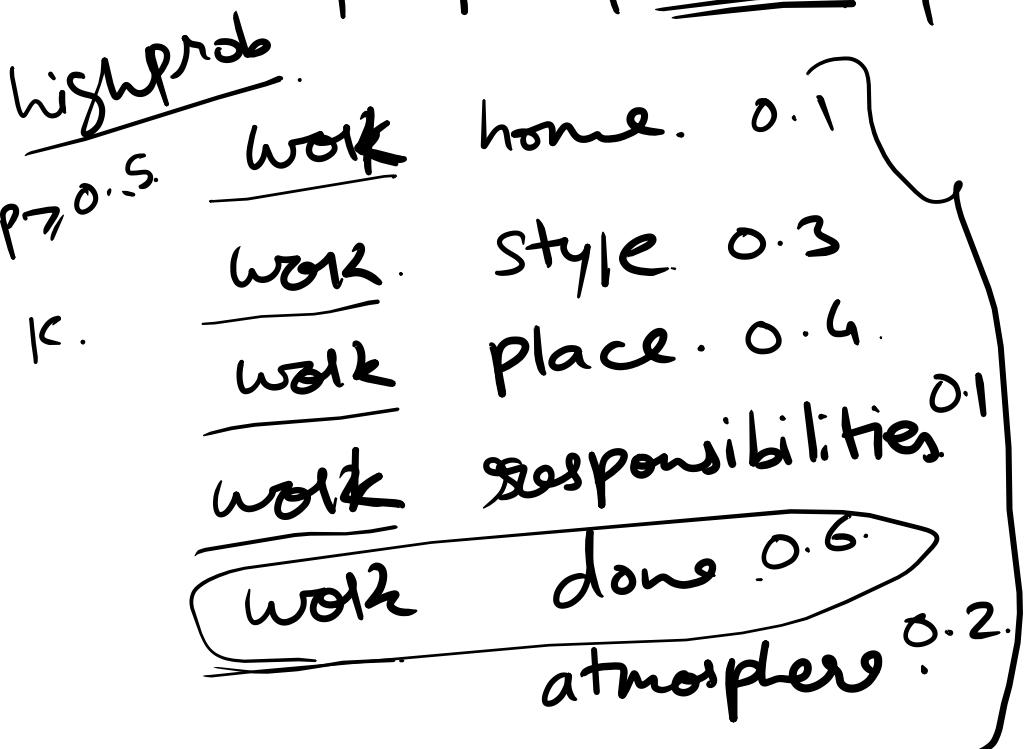
Madrid.

Washington

This | is | how | they | work. |

We | go | to | work | by | train

how | much | work | world| this| course| need
people | work | from| home|



less prob.
work work
work2.

zebra
dove.
~~dove~~

model:
GPT
Gemini