① Python
② Anaconda (Framework)   web based
③ Jupyter NoteBook   (IDE)

Start
  ↳ mimconda   Prompt
          ↳ Jupyter Lab ⏎

<u>Day-1</u>
   — AI, ML, DL   1- Data Engineer ⎫
   — Intro to python   2- ML Engineer   ⎬
   — Intro to stats (Statistical Libraries) 3- Data Scientist ⎭
                  (Pandas, Numpy)
   — Data Visualization
   — ML Algorithm

(AI) (ML) (DL)

Statistical methods (ML) is 1) <u>Sentiment Analysis</u> ←
              (DL)   2) Covid-19 Prediction using (X-Ray Images)
              (AI)   3) Online-chess game

<u>I-Phone-13</u>
    [3 Yr / ~Yr]   Object
                          (Newton)
    1950   Llama   OpenAI → ChPT
    (AI)   (Licensor) →
    (ML) Spam, Fraud   Co-Pilot
    SA (v) Images   LR
    NLP (T)   LR   3:0 175B
    Computer (Iidg) Generative-AI   DI   3.5
    Vision   New Text   RF   Lm
              New Images   K-means (LLM)
              New Audio 2   (1 T)
         Prompt   ChPT 4.0/4.5

<u>Rain Prediction</u>

x₁ Temp	x₂ Humidity	x₃ Wind speed	y Rain
20	90	50	Y.
25	20	60	N
35	80	100	Y

(1m) →
         ↑ Independent   ↑ dep var
              Var

[28] [40] [80] = 0 (Y)
 .15   x10   (N) •5 —1
                      -0

                  w₁₁ = .15
Temp (v₁) (3)w₁₁   w₁₂ = .10
         (5)w₁₂   w₂₁ = .45
Hum x₂ (8)w₂₁   w₂₂ = .35   (12)
         (3)w₁₁   w₃₁ = .20
Ws   x₃ (3)w₃₂   w₃₂ = .25

(1m)   (R) (Y/N)

<u>House Price</u>
.1   .105   .5   .2   .1
[Stru Data] (No. of B) (No. of W) (Area) (Locate) (Airport) (Price)
            ↓ →
            ↓ →
            ↓ →
 f₁ f₂ f₃ f₄   f₅   f₆   f₇   <u>o/p</u>

IOF   <u>Features</u>   <u>Feature Eqs</u>
                              ↓
                    ┌──────────┐
         →   │ ML Model │ → (20k USD)
                    └──────────┘

Area = 2200 SoF
No. = 5   Air = Down   (Regression)
Row = 3
                         <u>Linear</u>   (multi)

              → x = 10   Int

X — Data Type

→ $x = 10.5$
→ $x = $ "Hello"

$(1, 2, ⑤, 7, 9)$ ← Tuple

["apple", "orange", ""] ← List

{"id": 101, "Name": } ← Dictionary

2 ⟌ 7
  3
  6
  ———
  ①
→

$7 \% 2$

Chef

Data Engineer (DE)   ML Engineer (ME)   Data Scientist (DS)
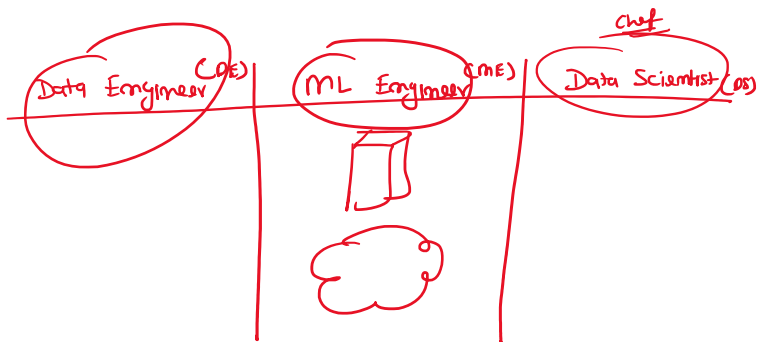
Data Kitchen   Big Restaurant

Cooks

DE   10 Cooks

→   9 Chef
     (2-3)

Data Collect

A Cooks
B Chef

1 DE
2 DS

A → 1   A → 2
B → 2   B → 1

  X   Y

model
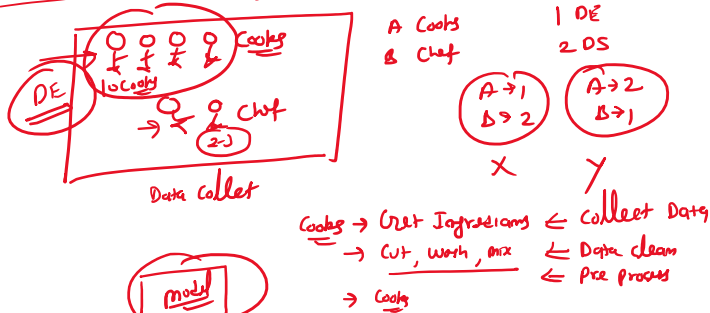
Cooks → Get Ingredients ← Collect Data
→ Cut, wash, mix ← Data clean
              ← Pre process
→ Cook
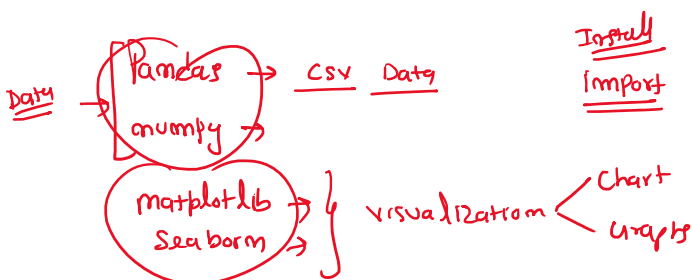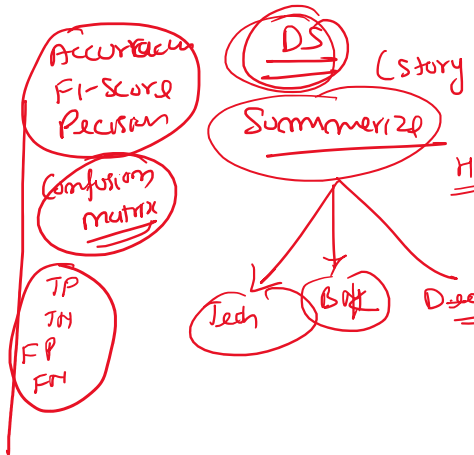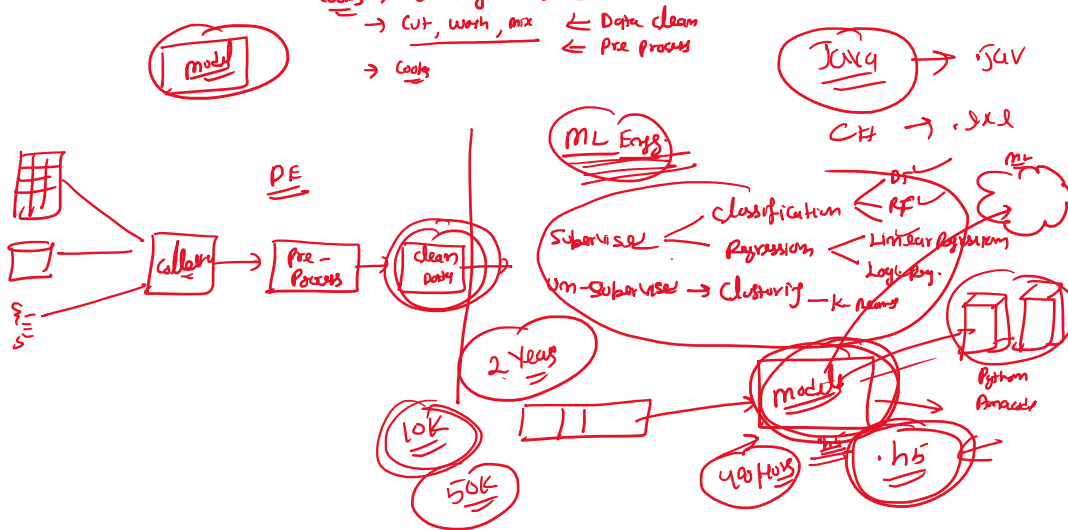
Java → .jav

C# → .exe

ML Engg

DE

Collect → Pre-Process → Clean Data

Supervise → Classification ← DT
          Regression ← Linear Regression
                        Logis Reg.
Un-Supervise → Clustering — K means

RF

2 Years

model

10K

50K

480 Hours   .h5

Python
Anacoda

Accuracy
F1-Score
Precision

Confusion
matrix

TP
TN
FP
FN

DS

Summerize (Story)

Tech   Biz   Dec

Data → Pandas → CSV Data
       numpy
       matplotlib
       Seaborn } Visualization < Chart
                                  Graphs

Install
Import

telling)
=
=

$$\underset{2 \times 3}{\underbrace{m \times \underset{Col}{m}}}$$

$$\underset{Row}{\underset{3 \times 2}{\underline{m}} \times \fbox{K}} = \underset{2 \times 2}{\boxed{m \times K}}$$

1- Linear Regression
2- multiple y
3- Decision Tree
4- RF