

Name-

Skill- C, SQL

Project- IT

Pre Test Python
SQL

D1 Python For Data Engineers.

Lang. Specific

- why Python
- Token (variable, Data Type)
- Statement (Cond, Loop)
- Collection (List, tuples, Set, Dict)
- Lambda.
- function

} Basic

OOP

- class & object.
- Inheritance
- polyn
- static
- Const & Destr.

} Inter.

Packages

- Numpy.
- Scipy.
- Pandas
- Matplotlib.
- SQL Alchemy.
- Spark

Day1: Python

Day2: EDA

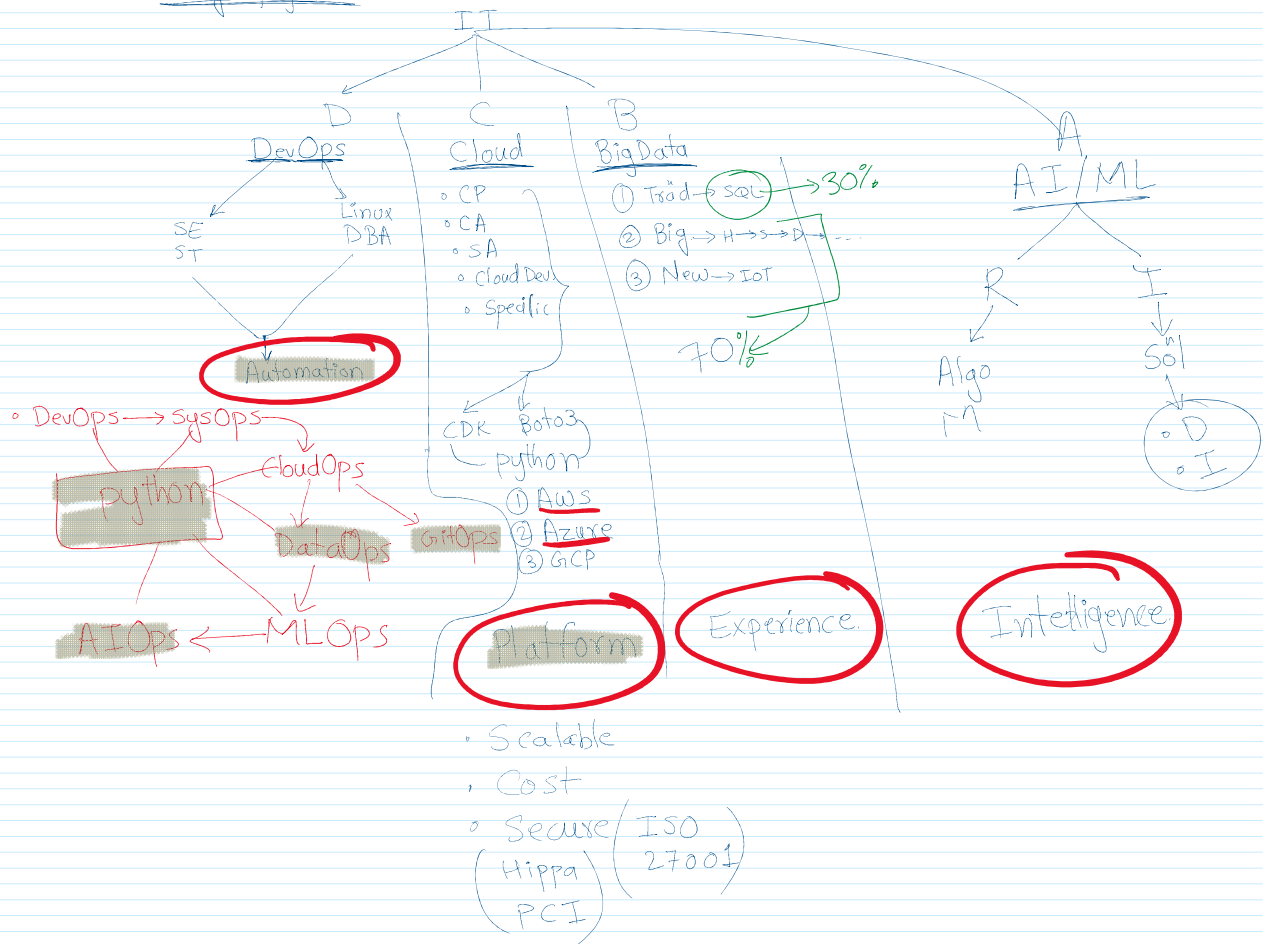
Day3: DB (SQL, NoSQL)
↓
MySQL, MongoDB

Day4: Data Modeling & Techniques

Day5: cloud (AWS, Azure)

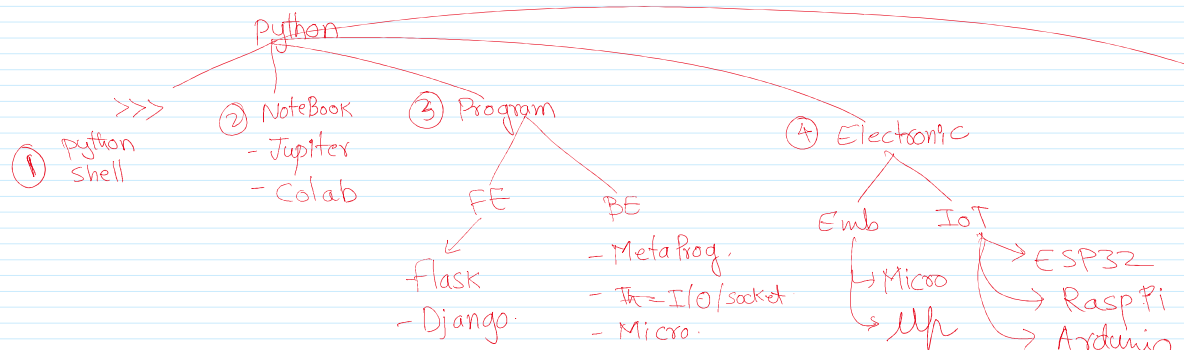
Mid. Test

Why Python



Why Python

	App
Text Processing =	Google.com
Video Processing =	Youtube/Netflix.
Distributed Computing =	BitTorrent.
Cloud =	AWS, DropBox.
Security =	NASA (MCP)



⑤ Web

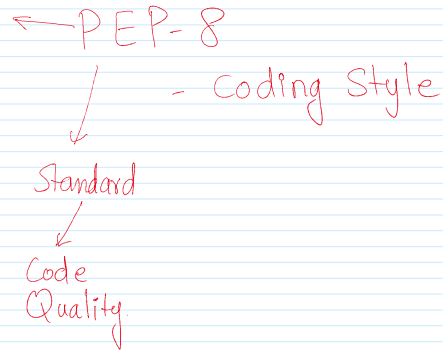
- Web Browsers.

- flask
- Django

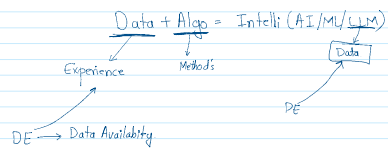
- I/O/socket
- Micro

↳ Micro
↳ RSPi
↳ Arduino

Python
Enhancement
Program.



Data Lake 13PB



① Language ③ Package's

② OOP

① Lang

String List = ['AA', 'BB', 'CC']
 ↓
 ①- AA
 ②- BB
 ③-
 List

② OOP

Employee.
 - Constructors
 - Destructor
 - Salary → method

Lat:

③ Package

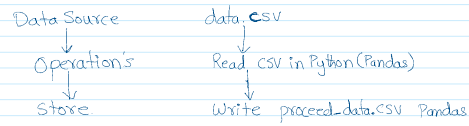
• Set of Modules

Pandas

Data Source

data.csv

Pandas



- Tab Sep Value = TSV
- CSV

df				
Name	Age	Gender	City	Salary

Selecting & Filtering

- 1] read data.csv → 10
- 2] Filter data
 - Age > 100 → 3
- > 3] Select Specific

Name	Age	City
A	1	==
B	2	==

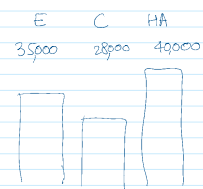
Matplotlib

- 1] Line Plot

Month = [Jan - - - -]
 Sales = [10000 - - - -]

- Line Plot to visualize the trend of sales over six months for Retail Store.

⑦ 3 types of Products



⑧ Line Interpolation

scipy { time1 t2 t3 t4
 v1 v2 [x] v4

- Estimate a missing value.

scipy.interpolate.interpd(X, Y, kind, fill_value="extrapolate")

Diagram showing the relationship between TimeStamp, Value, and the interpolation process:

```

    graph TD
      TS[TimeStamp] --> X[X]
      V[Value] --> Y[Y]
      X --> I[inter]
      Y --> I
      I --> S[Str Linear]
  
```

