Who created `Python` ?

- Guido Van Rossum (Creator of Python)
- `Python` is open source software

what are programming languages?

`python` -> compilers -> machine language (binary)

What is `open source` ?

- free but not just in terms of cost
- free in the sense of freedom
- download, modify and freely distribute

`Linux` is OS and `Linux` is open source - Andriod OS - Fedora

Installation of `Python`

- [https://www.python.org/ (https://www.python.org/)](https://www.python.org/)
- downloads
- prompt (checkbox)

- `command prompt` (application)
- `python` + enter (to start `python interpreter`)

Terminology

Python interpreter : tool to run python code line by line

Front-end developer Back-end developer Full-stack developer SDLC Server ()

Cloud Computing

- Environements DEV QA UAT (User Acceptance Test) PROD

e-commerce website

```
- Website (application)
    - front-end [html, css, javascript, reactjs, angularjs, php,...]
    - back-end  [Python, Java, Golang, Nodejs, .net, ....]
```

Roles

```
- front-end developers
- back-end developers  [TARGET]
- full-stack developers (front-end + back-end)
```

Team structure

```
Project "E-Commerce - ShipKart.com" - `Tesla`
```

Team structure

- Python Developers
- Front-end developers
- Testers (aka QA engineer)
- DevOps engineers [takes care of deploying applications in different environments

```
              and makes sure application is in desired state]
```

- Product Owner
- BA (Business Analyst)

Shipkart.com - "Big Billion Day" 12 AM

```
- application <---> 1 server
- 10x         <---> 100 servers
```

SDLC

Software Development Life Cycle

- Requirements
- Development
- QA
- Deployment
- Maintainance

Backend application technologies

```
- Programming language (Python / Java / ...)
- Frameworks (Django, Flask, FastAPI,...)
- Database (MySQL, MongoDB, Oracle,...etc)
- Server [Linux, Windows, MacOS]
- Cloud provider
```

Servers

Unix - Linux

```
- MacOS
```

Linux (90% market is captured by linux)

```
- Ubuntu
- Android OS (mobile OS)
- Centos
- Fedora
- MintOS
- Red Hat
...
...
```

Cloud Computing

Cloud Computing is nothing but provision of computing resources (like servers) from remotely placed data centers (Think of it like companies provide these resources on rent)

- `On-prem` : servers owned by organization
- `On-cloud` : AWS, Azure, GCP, ...

Features of `Python`

- Easy to code
- Easy to read
- Free and open source
- Robust library support (community)
- Interpreted (line by line code execution)
- portable
- Both Object-oriented and procedure-oriented programming are supported
- Exensible
- Supports GUI
- Dynamically typed (duck typing)