

Introduction

Monday, April 21, 2025 1:52 PM

Python – Overview

Python Compatible Version in ETL Automation Testing, libraries , software, IDE's

Why Python is important for QA?

Python architecture

Python Vs Java

Problem in Python? How is rectified the problem?

Python Compiler types

Required Libraries, Frameworks

Python

- General purpose programming lang – used in different domains – web
 - Web dev
 - Data science & ML
 - Automation / scripting (Program – set of instructions which is used for performing task or action Script – it's also one of the program, control the software application)
 - Game dev
 - Networking
 - Cybersecurity
 - Embedded system / IOT
 - AI
- interpreted programming lang
- scripting lang

Python

- current version Jan 8th 2025 – 3.13.2

- Jan 25th 2025 – 3.13.3

Which python version is compatible?

Python 3.10+

Python 3.8 - 3.13 (mac os)

ETL

Python 3.10 , 3.11 , 3.12

Pandas – Data Analysis lib - 3.8 -3.13 - standard version 3.10 or 3.11

SQLAlchemy – Database interaction lib – 3.8 to 3.13 - std version 3.10 or 3.11 or 3.12

Airflow – Workflow orchestration – 3.10+ - std version 3.10, 3.11

Testing lib or frameworks

Unittest – testing lib - 3.10 or 3.11

Pytest – Testing framework in ETL – 3.10 or 3.11

Why python is important for QA(Testing)

1. Test Automation
 - * pytest
 - Unittest
 - Robot Framework
 - Behave
2. Easy to learn and read
3. Selenium with python web UI testing
4. API Testing
 - Request
 - Httpx
 - Pytest + requests
5. Integration with AI/ML testing
6. CI/CD and DevOps Compatibility – Infrastructure Automation
7. Cross platform Support

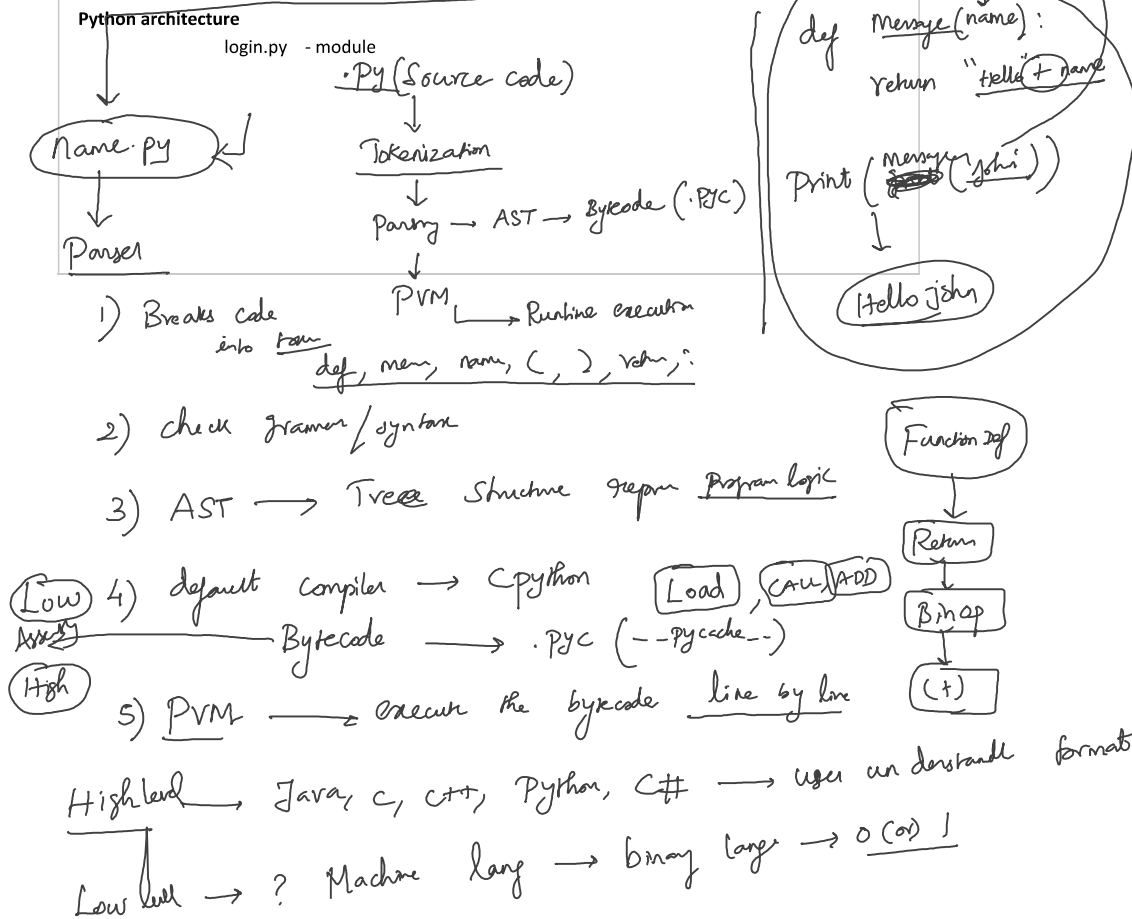
Banking web app

UI testcases – Python + Selenium (Transfer Money)

Verify if account balance is updated after transfer – API testing - Pytest + requests

Integrate test results into Jenkins with python scripts

Validate the database entries - Python + SQLAlchemy



Byte Code

```

3 0 RESUME
0 4 2 LOAD_CONST
1 ('Hello ')
4 LOAD_FAST
0 (name)
6 BINARY_OP 0 (+)
10 RETURN_VALUE

```