Interview Questions (Gen AI) system design and programming round

# Python programming problems – 30 mins

# Github Dataset (**use Issues.CSV**) - 15 mins

**Which programming language has the highest total count of issues across years?**

**How has the** **count of issues for Python changed over time? Please illustrate this with a line plot.**

**Plot a bar graph that demonstrates a comparison over time of total issue count for every programming language available in the extract**

# Stock Price Dataset ( **use portfolio\_data.csv**) - 15mins

**Print the date when the Netflix stock was at its highest price?**

**For how many days did the returns on BTC exceed AMZN?**

**Which stock has had the greatest price fluctuation?**

See next page

# System design scenario [ 20 mins]

At Citi, we envisage generative AI being used by software developers to generate code.

Security is of paramount importance for Citi and therefore code generated by OpenAI must be vetted for safety before it is presented to the user.

Design a secure execution sandbox and articulate the details, including:

* System Design
* Security
* API design
* Decoupling
* Scalability
* Other considerations