



TOP 20 PYTHON INTERVIEW QUESTIONS FOR DATA ENGINEERS

- Master the most common Python questions.
- Sharpen your coding skills for your next big opportunity.

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Core Python Concepts

- Q1. What are Python's key features, and why is it suitable for data engineering?
- Q2. Explain the difference between shallow copy and deep copy in Python.
- Q3. What are Python decorators, and how do they work?
- Q4. How is memory managed in Python?
- Q5. What are Python's built-in data structures, and where would you use them?

Data Manipulation

- Q6. How do you handle missing data in Pandas?
- Q7. What is the difference between `apply()`, `map()`, and `vectorized operations` in Pandas?
- Q8. How do you merge or join datasets in Python?
- Q9. Explain how Python's `groupby` works with an example.
- Q10. What are the pros and cons of using Python for ETL pipelines?



Performance Optimization

Q11. What are some ways to improve the performance of Python scripts?

Q12. How does Python's **multiprocessing** differ from **threading**, and when should you use each?

Q13. Explain the use of generators for memory efficiency.

Q14. What is the Global Interpreter Lock (GIL), and how does it affect Python performance?

File and Database Handling

Q15. How would you process a large file in chunks using Python?

Q16. Explain how to interact with databases using Python. Which libraries would you use?

Q17. What is the difference between `pandas.read_csv()` and `csv.reader()`?



APIs and Frameworks

Q18. How do you connect to and fetch data from an API in Python?

Q19. What is Apache Airflow, and how can it be integrated with Python for data workflows?

Error Handling

Q20. How do you handle exceptions in Python? Provide an example of a try-except block for handling file I/O errors.



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