■ Python Interview Preparation Guide ■

Your go-to companion for Python Interviews, Real-world Scenarios, and Coding Practice

- Interview preparation notes
- Most repeated coding questions
- Fastrack 39 questions
- Interview experiences
- Real-time scenarios

■ Interview Experiences with Questions

Google

Theoretical Questions:

– What is Python's Global Interpreter Lock (GIL)?

– Explain Python memory management.

– What are Python metaclasses and their use cases?

– Difference between list, tuple, set, and dictionary.

– How do Python decorators work internally?

Coding Questions:

– Write a function to compute the longest common prefix.

– Implement a Python class with private attributes and getter/setter methods.

– Write a function to check if two strings are anagrams.

Amazon

Theoretical Questions:

– Explain the concept of duck typing in Python.

– What is the difference between deep copy and shallow copy?

– Explain the use of generators and yield.

– What are Python comprehensions?

– How is exception handling managed in Python?

Coding Questions:

– Write a program to implement LRU cache.

– Count vowels and consonants in a given string.

– Check if a given number is an Armstrong number.

Microsoft

Theoretical Questions:

– Explain how Python handles memory allocation.

– What are Python magic methods?

– Difference between staticmethod and classmethod.

– What is a context manager in Python?

– Explain multithreading vs multiprocessing.

Coding Questions:

– Implement a basic calculator using Python functions.

– Create a function to flatten a nested list.

– Write a function to find the longest palindrome in a string.

Adobe
Theoretical Questions:

– How do you manage Python dependencies in a project?

– What are Python lambda functions and when to use them?

– Explain the concept of first-class functions.

– How does Python handle imports and modules?

– Difference between is and == in Python?

Coding Questions:

– Write a Python script to fetch current date and time.

– Implement binary search in Python.

– Create a function to rotate an array.

Flipkart
Theoretical Questions:

– What is monkey patching in Python?

– Explain slicing in Python with examples.

– What is the use of the 'with' statement?

– How is error propagation handled in nested exceptions?

– What are mutable and immutable data types?

Coding Questions:

– Write a Python function to find factorial using recursion.

– Create a function to merge two dictionaries.

– Implement a queue using two stacks in Python.

■■ Real-Time Project Scenarios

– Build a real-time data ingestion system using Python and Kafka.

– Design a log monitoring pipeline using Python and Elastic Stack.

– Create an ETL pipeline for daily data updates using Python and Airflow.

– Build a RESTful API in Flask to handle user data and CRUD operations.

– Automate report generation using Python and Pandas for weekly sales data.

– Use PySpark to process and transform 10GB of data with schema evolution.

■ Common Python Coding Questions

– Write a Python program to check if a number is prime.

– Implement Fibonacci series using recursion.

– Write a Python code to remove duplicates from a list.

– Reverse a string without using slicing or in-built methods.

– Find the factorial of a number using loop.

– Merge two sorted arrays without using sort.

– Check if a string is a palindrome.

– Find the second largest number in a list.

– Count occurrences of each character in a string.

– Swap two numbers without using a temporary variable.

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