



Interview Questions : Class in Python



Objective:

To evaluate a candidate's understanding of Python's object-oriented programming concepts, including class definition, object instantiation, constructors, methods, inheritance, and advanced features like magic methods and decorators.



Beginner-Level Questions

1. What is a class in Python?
2. How do you define a class in Python?
3. What is the difference between a class and an object?
4. What is the `__init__` method? When is it called?
5. How do you create an instance of a class?
6. What is `self` in a class method?
7. Can you create multiple objects from the same class?



Intermediate-Level Questions

8. What is the difference between instance variables and class variables?
9. What is a method in Python? How is it different from a regular function?
10. What is encapsulation in Python? How is it achieved?
11. How does inheritance work in Python? Give an example.
12. What is the difference between single, multiple, and multilevel inheritance?
13. What are magic methods (dunder methods) in Python? Name a few.
14. What is `@classmethod` vs `@staticmethod`? How are they used?



Advanced-Level Questions

15. Explain method overriding with an example.
16. What is polymorphism in Python? How is it implemented?
17. What is the use of `super ()` in Python classes?



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18. Can you explain the difference between composition and inheritance?
19. What are data classes in Python? When should you use them?
20. What is metaclass in Python?
21. How is memory managed for class objects in Python?



Practical Coding Questions

22. Write a Python class called `BankAccount` with deposit, withdraw, and display balance methods.
23. Create a class `Employee` with attributes: name, age, and salary. Add a method to display employee details.
24. Design a class hierarchy for `Vehicle` → `Car` and `Bike` using inheritance.
25. Create a class that overrides the `__str__` method to provide a custom string representation.