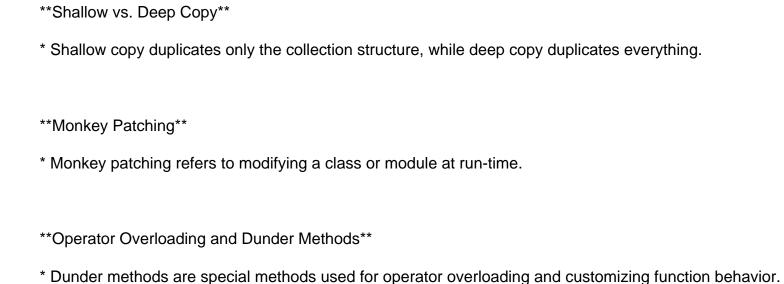
Python Developer Interview Questions and Answers **Lists vs. Tuples** * Lists are mutable, while tuples are immutable. * Lists can contain different types of objects, while tuples contain immutable objects. **Decorators** * Decorators are functions that take other functions as arguments, add functionality, and return new functions. * They can be used to extend the functionality of existing functions without modifying their source code. **List and Dict Comprehensions** * List comprehensions create new lists by iterating over existing iterables and applying a transformation to each element. * Dict comprehensions create new dictionaries by iterating over existing iterables and creating key-value pairs. **Memory Management** * Python uses a private heap to manage memory for objects and data structures. * The Python memory manager allocates heap space and provides tools for reliable and robust programming. * The gc module enables or disables automatic garbage collection. **Generators vs. Iterators** * Iterators are objects that contain a countable number of values and can be iterated over. * Generators are iterators that can only be executed once and use the "yield" keyword.

* In Python, inheritance is implemented by mentioning the parent class in the child class's brackets. **Local vs. Global Variables** * Local variables are declared within functions and are only accessible within those functions. * Global variables are declared outside functions and are accessible throughout the program. **Getting List of Keys in a Dictionary** * Use iterable unpacking, shortcut for iterable unpacking, keys() function, or list comprehension. **Abstraction vs. Encapsulation** * Abstraction hides unnecessary details and exposes relevant data. * Encapsulation hides data and code together from external access. **Multiple Inheritance (Diamond Problem)** * Python supports multiple inheritance, but it can lead to the diamond problem, where a child class inherits from two classes that have the same method. **Empty Lists, Tuples, Dicts, and Sets** * Use [] for empty lists, () for empty tuples, {} for empty dicts, and set() for empty sets. **.pv vs. .pvc Files** * .py files contain source code, while .pyc files contain bytecode for faster execution. **String Slicing** * String slicing uses the syntax Str_Object[Start_Position:End_Position:Step] to extract substrings.

- **Concatenating Tuples** * Tuples are immutable, but they can be concatenated using the + operator. **Python Arrays vs. Lists** * Arrays can only store values of the same type, while lists can store values of different types. * Arrays are more compact and efficient for storing large amounts of data. **_a, __a, __a in Python** * a is a weak private variable/function/method for internal use. * __a is rewritten by the interpreter to avoid conflicts in subclasses. * __a__ is used for special methods that Python provides for operator overloading. **Reading Multiple Values from Single Input** * Use map(), split(), or list comprehension. **Copying and Deleting Dictionaries** * Use clear(), pop(), or del() to delete dictionary items. * Use copy() to create a new dictionary that is independent of the original. **Unit Testing** * Unit testing helps ensure code reliability and prevents bugs.
- **Map, Filter, and Reduce Functions**
- * Map() applies a function to each element in an iterable.
- * Filter() creates a new list containing only elements that satisfy a condition.
- * Reduce() combines elements in an iterable into a single value.



Pattern Drawing

* Use nested loops to draw patterns.