

1. What is dynamic typing in Python?

Python allows a variable to change its data type at runtime without explicit declaration.

2. Difference between mutable and immutable data types

Mutable data types can be changed after creation (e.g., list), while immutable data types cannot be changed (e.g., tuple).

3. What are local and global variables?

Local variables are defined inside a function, while global variables are defined outside and accessible throughout the program.

4. Purpose of the return statement in a function

It sends a value back to the caller and ends the function execution.

5. What is list comprehension?

A concise way to create lists using a single line of code.

6. Difference between break, continue, and pass

break exits the loop, continue skips the current iteration, and pass does nothing (placeholder).

7. What is recursion? Give a simple example.

Recursion is a function calling itself. Example: a function calculating factorial.

8. What is a lambda function?

A lambda function is an anonymous, single-expression function.

9. Difference between is and ==

is checks memory location, while == checks value equality.

10. What are docstrings and why are they important?

Docstrings are documentation strings that describe a function/class, helping in understanding and maintaining code.