

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.