

1. **What is Python? Why is it popular in AI & Data Science?**

Python is a high-level programming language. It is popular in AI & Data Science due to its simple syntax and powerful libraries like NumPy, Pandas, and TensorFlow.

2. **Difference between list, tuple, set, and dictionary**

List: ordered and mutable

Tuple: ordered and immutable

Set: unordered and unique elements

Dictionary: key–value pairs

3. **What are variables and data types in Python?**

Variables store data values, and data types define the type of data such as int, float, string, and boolean.

4. **Difference between == and =**

= is used for assignment, while == is used for comparison.

5. **Explain if, elif, and else**

They are conditional statements used to execute code based on conditions.

6. **What is a function? Why do we use functions?**

A function is a block of reusable code. Functions improve code reusability and readability.

7. **Difference between for loop and while loop**

for loop is used when the number of iterations is known, while while loop is used when the condition is unknown.

8. **What is a module? Example**

A module is a file containing Python code. Example: math module.

9. **What is exception handling?**

Exception handling manages runtime errors using try, except blocks.

10. **What is pip?**

pip is a package manager used to install and manage Python libraries.