

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.