**Python-1(fundamentals)**

1. Introduction to Python and its Features (simple, high-level, interpreted language).
2. History and evolution of Python.
3. Advantages of using Python over other programming languages.
4. Installing Python and setting up the development environment (Anaconda, PyCharm, or VS Code).=Done
5. Writing and executing your first Python program.
6. Understanding Python’s PEP 8 guidelines
7. Indentation, comments, and naming conventions in Python.
8. Writing readable and maintainable code.
9. Understanding data types: integers, floats, strings, lists, tuples, dictionaries, sets.
10. Python variables and memory allocation.
11. Python operators: arithmetic, comparison, logical, bitwise.
12. Introduction to conditional statements: if, else, elif.
13. Nested if-else conditions.
14. Introduction to for and while loops.
15. How loops work in Python.
16. Using loops with collections (lists, tuples, etc.)
17. Understanding how generators work in Python.
18. Difference between yield and return.
19. Understanding iterators and creating custom iterators.
20. Defining and calling functions in Python.
21. Function arguments (positional, keyword, default).
22. Scope of variables in Python.
23. Built-in methods for strings, lists, etc.
24. Understanding the role of break, continue, and pass in Python loops
25. Understanding how to access and manipulate strings.
26. Basic operations: concatenation, repetition, string methods (upper(), lower(), etc.).
27. String slicing.
28. How functional programming works in Python.
29. Using map(), reduce(), and filter() functions for processing data.
30. Introduction to closures and decorators.