

Python Course Content

Core Python

1. Introduction to python
2. History Of Python
3. Advantages & Disadvantages of Python
4. Introduction to Interpreter
5. Python Installation
6. Python Program Execution Flow
7. Python Syntaxes
8. Introduction to IDE (Eclipse, PyCharm)
9. Python Program Development
10. Identifiers, keywords
11. Basic data types
12. Dynamic Typing
13. Type conversion functions
14. Operators
15. Operator Precedence

16. **input/output**
17. **Reading User Input**
18. **Displaying Output**
19. **Formatting Output**
20. **Variables, expressions**
21. **Operators**
22. **Selection control statements (if, if..else)**
23. **range data type ,indexing and slicing**
24. **Iterative control statements**
25. **(while, for..in, while...else, for..in .. else)**
26. **Transfer control statements (Break & continue)**
27. **Python strings**
28. **List**
29. **Tuple**
30. **Set**
31. **Dictionary**
32. **Functions**
33. **Definition and advantages of a function**
34. **Understanding scope**

35. **Default arguments**
36. **Keyword arguments**
37. **Variable length arguments**
38. **Lambda expressions**
39. **Documentation & Annotations**
40. **Types of arguments**
41. **Scope of variables**
42. **Global variables**
43. **Local variables**
44. **Nested functions**
45. **Lambda functions**
46. **Exceptions**
47. **Syntax errors vs Runtime errors**
48. **Handling, Raising exceptions**
49. **Built-in exceptions**
50. **MemoryError**
51. **NameError**
52. **ValueError**
53. **TypeError**
54. **User-defined exceptions**
55. **Clean-up actions**

PYTHON OOPS AND ADVANCED CONCEPTS

1. Introduction to OOPS
2. OOPS principles
3. Classes and Objects
4. Instance variables
5. Instance methods
6. Class variables,
7. Class methods
8. Constructors
9. Inheritance
10. Abstract classes
11. Inner classes
12. Exception handling
13. Regular expressions
14. File handling
15. Accessing (reading / writing) files

16. **Serialization**
17. **Multithreading**
18. **Introduction to Database**
19. **Python Database Connectivity**
20. **CRUD Operations with Database**
21. **Unit Testing**
22. **Mini Projects Development**
23. **Debugging**

Django Framework

1. **Introduction to Web Development**
2. **Introduction to Django Framework**
3. **Features of Django**
4. **Django Installation**
5. **MVC Model**
6. **HTTP Concepts**
7. **Views**
8. **URL Mapping**

Templates

1. **Django Template Language**
2. **Utilities of Templates**
3. **Creating Template Objects**
4. **Tags, Variables and Filters**
5. **Rendering Templates**
6. **Template Inheritance**

Django Forms

1. **Form Handling**
2. **Form Classes**
3. **Form validations and Error Messages**
4. **Form Display**
5. **Capturing Form data**
6. **Advanced Form Processing**

Django Models

1. Django Models
2. Model Fields
3. Model inheritance
4. Primary Keys and the Model
5. Dynamic Webpage
6. Toggle Hidden Content
7. JQuery and Ajax intergreation
8. Serialization and Deserialization

Templates

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TOOLS

1. Git HUB
2. Jenkins

