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Python Programming

Module-1: Python Introduction

1. Who should learn Python?
2. Advantages of Learning Python.
3. Why Python demand in current Industry
4. Python History
5. Python Features
6. Python Installation and PATH setting
7. First Python Program Development

Module-2: Python Concepts

8. Python Keywords and Comments Concept
9. Use of Quotes and different types
10. Python Indentation Concept
11. What is an identifier? What are the rules of an identifier?
12. Python Variables and different ways to create variables
13. Practical examples on variables, Identifiers, keywords
14. How to reading input data from user?
15. Working with input () function in Python?
16. Python Datatypes and Datatype Conversions.
17. Type Casting Functions and Examples?
18. Python Operators Concept

Module-3 : Variables & Data Types

19. Python Data Types and Data Structures
20. Python String Data Structure
21. Python Tuple Data Structure
22. Python List Data Structure
23. Python Set Data Structure
24. Python Dictionary Data Structure
25. Python Data Packing and Unpacking Concept
26. Python data type Comprehensions concept

Module-4 : Control Statements

27. Python Control Statements
28. Python Conditional Statements
29. Python Looping or Iterative Statements
30. Python Transfer or Jump
31. Working with enumerate and format functions

Module-5 : Functions + Modules + Packages

32. Python Functions Concept.
33. Types of Arguments in Functions.
34. Local Variable Scope
35. Global Variable Scope
36. Scope Conversion
37. Python Lambda Expressions
38. Working with filter() , map() and reduce() functions.
39. Python Modules Concept and Types of Modules?
40. How many ways can we import a module in Python?
41. Working with modules
42. Python Packages

Module – 6 : Files + Exceptions

43. Python Files Handling concept.
44. Performing CURD Operations in Files?
45. Working with os module for handling files.
46. Interview Questions on Files Handling concept.
47. Python Exception Handling concept.
48. Runtime Exceptions
49. Userdefined Exceptions

Module-7 : OOPS

50. What is OOPS

51. Class + Object + Method + Constructor + Variables

52. OOPS Principles

53. Working with Inheritance and Its types ?

54. Working with Polymorphism and Its types?

55. Working with Encapsulation and Its types?

56. Working with Abstraction and Examples?

Module-8 : Python with Database Comm..

57. Python with Database Connection Concept. (MySQL DB, Mongo DB, Oracle DB)

Module-10: Working with Pandas Module

58. What is Pandas module & purpose of it?

59. Key Features of Pandas:

60. How to install pandas in python?

61. How to verify the installation of pandas in python console?

62. What are the Data Structures in Pandas module

63. What is Series in pandas and give me some examples?

64. What is DataFrame in pandas and give me some examples in python?

65. Explain the difference between Series and DataFrame in Pandas

66. What are the key differences between NumPy and Pandas?

Module-11: Working with numpy module

67. **What is the purpose of the NumPy module in Python?**
68. **How do you install the NumPy module in Python?**
69. **How can you check the version of NumPy in Python?**
70. **Who developed NumPy, and when was it created?**
71. **Why is NumPy used in Python?**
72. **Why is NumPy faster than Python native lists?**
73. **How do you create a NumPy ndarray object?**
74. **How can you check the type of an array in NumPy?**
75. **How can you check the number of dimensions in a NumPy array?**
76. **How can you create a 0-D, 1-D & 2-D array objects in NumPy?**
77. **How can you access elements in a NumPy array using indexing?**
78. **How do you use *np.where()* to search for elements?**
79. **How do you sort & filter array elements?**
80. **Explain the use of *concatenate()* for joining arrays.**

Module-12:

81. **Python Interview Questions & Answers discussion**
82. **Sharing MCQs**
83. **Sharing Tasks/Assignments**