

# Python Fullstack Course Content

## **Core Python**

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| <ul style="list-style-type: none"><li>1. Introduction to python</li><li>2. History Of Python</li><li>3. Advantages &amp; Disadvantages of Python</li><li>4. Introduction to Interpreter</li><li>5. Python Installation</li><li>6. Python Program Execution Flow</li><li>7. Python Syntaxes</li><li>8. Introduction to IDE (Eclipse, PyCharm)</li><li>9. Python Program Development</li><li>10. Identifiers, keywords</li><li>11. Basic data types</li><li>12. Dynamic Typing</li><li>13. Type conversion functions</li><li>14. Operators</li><li>15. Operator Precedence</li><li>16. input/output</li><li>17. Reading User Input</li><li>18. Displaying Output</li><li>19. Formatting Output</li><li>20. Variables, expressions</li><li>21. Operators</li><li>22. Selection control statements<br/>(if, if..else)</li><li>23. range data type ,indexing and slicing</li><li>24. Iterative control statements<br/>(while, for..in, while...else, for..in .. else)</li><li>25. Transfer control statements<br/>( Break &amp; continue )</li></ul> | <ul style="list-style-type: none"><li>26. Python strings</li><li>27. List</li><li>28. Tuple</li><li>29. Set</li><li>30. Dictionary</li><li>31. Functions</li><li>32. Definition and advantages of a function</li><li>33. Understanding scope</li><li>34. Default arguments</li><li>35. Keyword arguments</li><li>36. Variable length arguments</li><li>37. Lambda expressions</li><li>38. Documentation &amp; Annotations</li><li>39. Types of arguments</li><li>40. Scope of variables</li><li>41. Global variables</li><li>42. Local variables</li><li>43. Nested functions</li><li>44. Lambda functions</li><li>45. Exceptions</li><li>46. Syntax errors vs Runtime errors</li><li>47. Handling, Raising exceptions</li><li>48. Built-in exceptions</li><li>49. MemoryError</li><li>50. NameError</li><li>51. ValueError</li><li>52. TypeError</li><li>53. User-defined exceptions</li><li>54. Clean-up actions</li></ul> |
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## **PYTHON OOPS AND ADVANCED**

### **CONCEPTS**

- 55. Introduction to OOPS
- 56. OOPS principles
- 57. Classes and Objects
- 58. Instance variables
- 59. Instance methods
- 60. Class variables,
- 61. Class methods
- 62. Constructors
- 63. Inheritance
- 64. Abstract classes
- 65. Inner classes
- 66. Exception handling
- 67. Regular expressions
- 68. File handling
- 69. Accessing (reading / writing) files
- 70. Serialization
- 71. Multithreading
- 72. Introduction to Database
- 73. Python Database Connectivity
- 74. CRUD Operations with Database
- 75. Unit Testing
- 76. Mini Projects Development
- 77. Debugging

## **Django Framework**

- 78. Introduction to Web Development
- 79. Introduction to Django Framework
- 80. Features of Django
- 81. Django Installation
- 82. MVC Model
- 83. HTTP Concepts
- 84. Views
- 85. URL Mapping

### **Templates**

- 86. Django Template Language
- 87. Utilities of Templates
- 88. Creating Template Objects
- 89. Tags, Variables and Filters
- 90. Rendering Templates
- 91. Template Inheritance

### **Django Forms**

- 92. Form Handling
  - 93. Form Classes
  - 94. Form validations and Error Messages
  - 95. Form Display
  - 96. Capturing Form data
  - 97. Advanced Form Processing
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## **Django Models**

98. Django Models

99. Model Fields

100. Model Inheritance

101. Primary keys and the Model

102. Dynamic Webpages

103. Toggle Hidden Content

104. JQuery and AJAX integration

105. Serialization and Deserialization

## **REST API Development**

106. Django REST Framework

107. REST Principles

108. Serializer class

109. Model Serializers

110. REST APIs

111. JSON, parsing object to JSON and back

112. Swagger

113. POST MAN

114. REST Client Development

115. REST Security

## **Misc Discussion**

116. Page redirection

117. Sending Emails

118. Deploying Django framework

119. Generic views

120. File uploading

121. Cookie handling

122. Session Management

123. Mini Projects Development

## **TOOLS**

124. Git HUB

125. Jenkins