

Python Lectureflow

Module-1) python - SDLC	6
<ul style="list-style-type: none"> • Introduction of students • Career in IT • Understanding Student Login of TOPS ERP • Using Lab • Types of Software • Introduction of Software • Application software • Web Application • mobile application • Desktop Application • Software development process • Software Requirement • Software Analysis • System Design • Software Testing • Maintenance • Development • Designing • DFD • Flow Chart 	
Module 2) Python - Fundamentals of python language	6

- Introduction of students
- Understanding Student Login of TOPSERP
- Career in IT
- Using Lab
- Introduction of Python
- Programming Style
- Core python concepts
- Conditional Statements
- If- else Nested if-else
- Practical Examples: 1) How to the python code Structure work? 2) How to create variable in python? 3) How to take user input? 4) How to check the type of variable dynamically. 5) W.A.P to find greater and less than number using If_else 6) W.A.P to find prime number using if_else 7) W.A.P to find the grade according to percentage using if_else ladder. 8) W.A.P to find that who can donate the blood using Nested if.
- Looping For , While
- Nested loops
- Control Statements
- 1) WAP to print each fruit in list using simple for loop. List1 (apple,banana,mango) 2) WAP to find the length of string using simple for loop List1 (apple,banana,mango) 3) WAP to find particular string using simple for loop and simple if condition. 4) Print this pattern using nested for Loop.
- Break
- Continue
- Pass
- Practical Example: 1) W.A.P to skip the (Banana) from the list using Continue Statement List1 - (apple,banana,mango) 2) W.A.P to break the for loop when (Banana) get in if Condition.
- String Manipulation
- Accessing Strings
- Basic Operations
- String slices
- Function and Methods
- 1) W.A.P to print (Hello) using string 2) W.A.P to allocate the string to a variable. 3) W.A.P to print String using three quotes 4) W.A.P to access the 1st position character using index value. 5) W.A.P to Access the string after the index value 1. 6) W.A.P to Access the string before the index value 5. 7) W.A.P to Access the String between the index value 1 to 4 8) W.A.P to print the string from the last index value. 9) W.A.P to print the String alternate character after the index value 1. 10) W.

Module 3) Python - Collections, functions and Modules in Python

- Accessing list
- Operations
- Working with List
- Function and Method
- Practical Example: 1) W.A.P create the list of multiple datatype element. 2) W.A.P to find the length of the list. 3) W.A.P to update the list using the insert() and append() 4) W.A.P to remove the element using the pop() and remove()
- Tuple
- Accessing Tuples
- Operations Working
- Functions and Method
- Dictionaries
- Accessing value in dictionaries
- Working with dictionaries
- Property
- Practical Example: 1) W.A.P to access value on index value in the list 2) W.A.P to access the value after the index value 1. 3) W.A.P to access the value between 1 to 5 4) W.A.P to access the value till index 5. 5) W.A.P to update the list using the index value. 6) W.A.P to irate the list using for loop. 7) W.A.P to insert the value in empty list using for loop and append(). 8) W.A.P to delete the element using del() 9) W.A.P to sort the list using sort() and sorted()
- 10) W.A.P to round the value in list using round() and for loop. 11) W.A.P to convert the list into tuple. 12) W.A.P to create tuple with multiple data type. 13) W.A.P to concate the two tuple into one tuple. 14) W.A.P to access the value of index value 1st in tuple. 15) W.A.P to access the value from last in tuple. 16) W.A.P to access the value between index 1st to 5th from the tuple. 17) W.A.P to access the alternate value between index 1st to 5th.
- 18) W.A.P to create the dictionary of having 6 key and value pair. 19) W.A.P to access the value using the key from dictionary. 20) W.A.P to update the value on particular key. 21) W.A.P to separate the key and value from dictionary using keys() and values() of dictionary. 22) W.A.P to convert the two list into one dictionary using for loop. 23) W.A.P to convert the list using zip() of dictionary. 24) W.A.P to count the character repeat in string.
- Function
- Types of Function
- Function Argument
- anonymous function
- Practical Example: 1) W.A.P to print the String using the function. 2) W.A.P to create the parameterized function. 3) W.A.P to print multiple string using function. 4) W.A.P to create calculator using function. 5) W.A.P to create lambda function using one expression. 6) W.A.P to create lambda function using two expression. 7) W.A.P to create lambda function using three expression. 8) W.A.P to create a return type function using lamda function.
- Modules
- Importing Module
- Math Module
- Random module
- Packages
- Practical Example: 1) W.A.P to import another module into one module. 2) W.A.P to use all the Math module function.

- Printing on screen
- Reading data from keyboard
- Opening and closing file
- Reading and writing file
- Practical Example : 1) W.A.P to create the file using the python. 2) W.A.P to create a file and print the string into the file. 3) W.A.P to read a file and print the data on console. 4) W.A.P to write the multiple String into file 5) W.A.P to read multiple String from the file. 6) W.A.P to check where is the cursor in the file.
- Exception Handling
- Handling Exception
- Finally Clause
- Practical Example: a) W.A.P to handle exception in calculator. b) W.A.P to handle multiple exception at time in one program. c) W.A.P to handle File Exception and use finally block for closing the file. d) W.A.P to print multiple exception using if else. e) W.A.P to print user define exception.
- class and object
- Payment integration
- Attribute
- Inheritance
- Overloading
- Overriding
- Practical Example: 1) W.A.P to create a class and access the property of class using object. 2) W.A.P to create local variable and global variable. 3) W.A.P to show single inheritance. 4) W.A.P to show Multilevel inheritance. 5) W.A.P to show Multiple inheritance. 6) W.A.P to show Hierarchical inheritance. 7) W.A.P to show Hybrid inheritance. 8) W.A.P to using super() in inheritance. 9) W.A.P to show method overloading. 10) W.A.P to show Method overriding.
- Search Function
- Match Function
- Matching Vs Searching
- Modifiers
- Practical Examples: 1) W.A.P to search a word from the string using Search() 2) W.A.P to match the word in string using Match().
- GUI Programming Introduction Tkinter programming
- Tkinter widgets
- Practical Example: 1) W.A.P to create GUI Frame. 2) W.A.P to create all the widgets using Tkinter.

Module 5) Python - DB and Python Framework

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- HTML
- CSS
- javascript
- Django Introduction Advantages of django Django vs Flask
- Virtual Environment, Project and app creation, MVT pattern architecture, Django Admin, URL pattern, Template integrat
- form validation using javascript, Django Database connectivity MYSQL or SQLite, ORM, Query set, Django forms, Django authentication
- Practical Example 1 Create Django Admin Panel 2 Creating the Doctor Finder Project. Project Practical Registration login , forgot password session management , email template , profile, updation , working with media , CRUD operations
- Practical Example: 1) Create Django Admin Panel 2) Creating the Doctor Finder Project.
- CRUD operations using AJAX, Customization django admin panel, Payment integration using paytm, Github project deployment, Live project deployment Python anywhere

Module 6) Python - Rest Framework - only for placement students

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- Introduction
- Requirements
- Serialization
- Requests and Responses
- Views
- URLs
- Pagination
- Settings
- Project setup

Module 7) Interview Prep - only placements

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- SDLC, OOPS :Object Oriented Programing, Class, object, Inheritance , Polymorphism, Encapsulation , Abstraction, Aggregation
- SDLC OOPS :Object Oriented Programing Class - object Inheritance Polymorphism Encapsulation Abstraction Aggregation SQL : Importance of Database CRUD JOIN QUERIES Front-End Fundamental : HTML , CSS , JavaScript , JQuery
- SQL : Importance of Database CRUD JOIN QUERIES
- python,Collection List Tuple Dictionary List comprehension File handling Function , Lambda function , modules Django Framework
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