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Python

Full Stack Roadmap

Save it or Miss it

Share it with your friends

1 : Introduction and Basics

1. Installation
2. Python Org, Python 3
3. Variables
4. Print function
5. Input from user
6. Data Types
7. Type Conversion
8. First Program

2 : Operators

1. Arithmetic Operators
2. Relational Operators
3. Bitwise Operators
4. Logical Operators
5. Assignment Operators
6. Compound Operators
7. Membership Operators
8. Identity Operators

3 : Conditional Statements

1. If Else
2. If
3. Else
4. El If (else if)
5. If Else Ternary Expression

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4 : While Loop

1. While loop logic building
2. Series based Questions
3. Break
4. Continue
5. Nested While Loops
6. Pattern-Based Questions
7. pass
8. Loop else

5 : Lists

1. List Basics
2. List Operations
3. List Comprehensions/Slicing
4. List Methods

6 : Strings

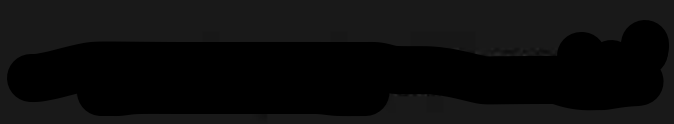
1. If Else
2. If
3. Else
4. El If (else if)
5. If Else Ternary Expression

7 : For Loop

1. Range function
2. For loop
3. Nested For Loops
4. Pattern-Based Questions
5. Break
6. Continue
7. Pass
8. Loop else

8 : Functions

1. Definition
2. Call
3. Function Arguments
4. Default Arguments
5. Docstrings
6. Scope
7. Special functions Lambda, Map, and Filter
8. Recursion
9. Functional Programming and Reference Functions



9 : Dictionary

1. Dictionaries Basics
2. Operations
3. Comprehensions
4. Dictionaries Methods

10 : Tuples

1. Tuples Basics
2. Tuples Comprehensions / Slicing
3. Tuple Functions
4. Tuple Methods

11 : Set

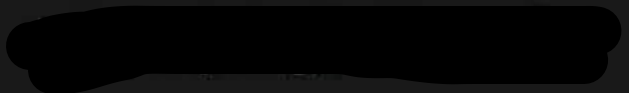
1. Sets Basics
2. Sets Operations
3. Union
4. Intersection
5. Difference and Symmetric Difference

12 : Object Oriented Programming

1. Classes
2. Objects
3. Method Calls
4. Inheritance and Its Types
5. Overloading
6. Overriding
7. Data Hiding
8. Operator Overloading

13 : File handling

1. File Basics
2. Opening Files
3. Reading Files
4. Writing Files
5. Editing Files
6. Working with different extensions of file
7. With Statements



14 : Exception Handling

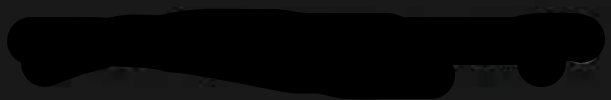
1. Common Exceptions
2. Exception Handling
    a. Try
    b. Except
    c. Try except else
    d. Finally
    e. Raising exceptions
    f. Assertion

15 : Regular Expression

1. Basic RE functions
2. Patterns
3. Meta Characters
4. Character Classes

16 : Modules & Packages

1. Different types of modules
2. Inbuilt modules
    a. OS
    b. Sys
    c. Statistics
    d. Math
    e. String
    f. Random



3. Create your own module
4. Building Packages
5. Build your own python module and deploy it on pip

17 : Data Structures

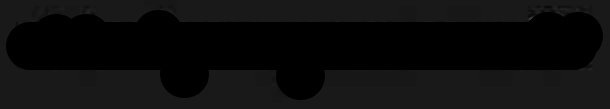
1. Stack
2. Queue
3. Linked Lists
4. Sorting
5. Searching
    a. Linear Search
    b. Binary Search

18 : Higher Order Function

1. Function as a parameter
2. Function as a return value
3. Closures
4. Decorators
5. Map, Filter, Reduce Functions

19 : Python Web Scraping

1. Understanding BeautifulSoup
2. Extracting Data from websites
3. Extracting Tables
4. Data in JSON format



20 : Virtual Environment

1. **Virtual Environment Setup**

21 : Web Application Project

1. **Flask**
2. **Project Structure**
3. **Routes**
4. **Templates**
5. **Navigations**

22 : Git and Github

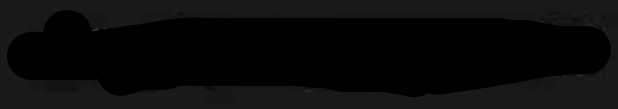
1. Git Version Control System
2. GitHub Profile building
3. Manage your work on GitHub

23 : Deployment

1. Heroku Deployment
2. Flask Integration

24 : Python Package Manager

1. What is PIP?
2. Installation
3. PIP Freeze
4. Creating Your Own Package
5. Upload it on PIP



25 : Virtual Environment

1. SQL and NoSQL
2. Connecting to MongoDB URI
3. Flask application and MongoDB integration
4. CRUD Operations
5. Find
6. Delete
7. Drop

26 : Building an API

1. API (Application Programming Interface)1. API (Application Programming Interface)
2. Building API
3. Structure of an API
4. PUT
5. POST
6. DELETE
7. Using Postman

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27 : Statistics with NumPy

1. Statistics
2. NumPy basics
3. Working with Matrix
4. Linear Algebra operations
5. Descriptive Statistics

28 : Data Analysis with Pandas

1. Data Analysis basics
2. Dataframe operations
3. Working with 2-dimensional data
4. Data Cleaning
5. Data Grouping

29 : Data Visualization with Matplotlib

1. Matplotlib Basics
2. Working with plots
3. Plot
4. Pie Chart
5. Histogram

30 : What to do now ?

Discussions on how to process further with this knowledge.