Sabik academy
THE LEARNER'S HUB

WELCOME TO SABIK FOR

FULL STACK PYTHON DEVELOPMENT WITH CLOUD

CORE PYTHON

- Python Introduction & setup environment
- What are the software's required to learn python
- Python 3.7.0 version installation
- Visual studio code installation
- An identifier(variable)
- What an identifier(variable)
- Rules for an identifier(variable)
- Data types in Python
- Integer data type
- Floating data type
- String data type
- join()
- len()
- replace()
- split()
- strip()

- rstrip()
- lstrip()
- upper()
- lower()
- slice operator with + index
- slice operator with - index
- Boolean data type
- Complex data type
- List data type
- List with their properties
- append()
- remove()
- insert()
- extend()
- pop()
- index()
- sort()
- sorted()
- len()
- copy()
- clear()
- Tuple data type
- Tuple with their properties
- max()
- min()
- len()
- Set data type
- Set with their properties
- copy()
- clear()
- len()
- intersection()
- update()
- union()
- Dictionary data type
- Dictionary data type with their properties

- keys()
- values()
- items()
- popitem()
- get()
- copy()
- clear()
- update()
- Bytes data type
- ByteArray data type
- Frozenset data type
- Range data type
- None data type
- Working with input() function with their rules
- Typecasting in python
- Working with eval() function with their rules

- ## An operators in Python

- Arithmetic operators
- Assignment operators
- Logical operators
- Logical and operator
- Logical or operator
- Logical not operator
- Equality operators
- Comparison operators
- Chaining operators
- Ternary operators
- Special type of operators
- Identity operators
- Membership operators
- Bitwise operators
- Bitwise and operator
- Bitwise or operator

- Bitwise exclusive or
- Bitwise complement operator
- Bitwise left-shift operator
- Bitwise right-shift operator
-
- Working with Input & Output functions
- Input() & print() functions
- Working separator attribute
- Working with end attribute
- Formatted string
- Replacement operator
- Command Line argument (CLA) in Python
- Working with sys module with argv variable
- argv variable with various operations

- Control Statements in Python

- Decision making or conditional statements
- If statement
- nested if statement
- if else statement
- if elif else statement
- Iterative statements
- for loop
- nested for loop
- while loop
- nested while loop
- Transfer statements
- pass statement
- break statement
- continue statement
- Working with zip () function
- List comprehension
- Tuple comprehension
- Set comprehension

- Dictionary comprehension

- Functional Programming language in Python
- What is function
- Types of functions
- Why do use functions in real time applications
- How to create a function in python
- What is __name__==””__main__”
- Formal parameters
- Actual parameters
- Arguments in function

- Positional argument
- Default argument
- Keyword argument
- Variable length argument
- Keyword variable length argument
- Difference between *ob1j & **obj2
- Nameless function
- Working with lambda keyword
- filter() function
- map() function
- reduce() function
- Inner or Nested function
- Packages in Python
- What is module
- What is package
- What is library
- What is framework
- How package is important in real world software’s
- Complete structure of package
- Complete structure of nested package

- ## Modular Programming Language in Python
- Why modular programming language
- Import & export data from one to another module
- Various possibility of import and export the data
- Working with reload () functions
- Working with math module
- Working with random module
- ## Pandas Library
- What are pandas
- How to install pandas
- How pandas ruling in data science applications
- Working on Data Frame object
- Working with pandas predefine functions
- head() function
- tail() function
- max() function
- min() function
- count() function
- sum() function
- sum(1) function
- sort() function
- Working with iterating methods in pandas
- Iteritems ()
- Iterrows ()
- Itertuples ()
- ## NumPy Library
- What is NumPy
- How NumPy is ruling in data science applications
- How to install NumPy
- Working with zero to nth dimension arrays
- What is ndim
- What is ndmin
- Slicing with numpy
- Working with shape attribute
- Working with reshape function

- Applying the loops on NumPy
- Working with predefine functions in NumPy

- Advance Data Structure in python
- Working on Stack with their rules
- Working with Queue with their rules
- Working binary tree with their rules
- Working with linked list
- Single linked list
- Double linked list
- Pattern Examples

- Important Interview Questions & Answers

Advance Python

- Object oriented Programming language in Python.

- What is class
- How to create class
- What is an object
- How to create an object
- What is constructor
- What is Instance method (Non static method)
- What is class method
- What is static method
- What is Instance variable
- What is Static variable

- What is Local variable
- Working with GC module
- Working with Inner classes
- What is composition and aggregation
- Inheritance
- Single inheritance
- Multilevel inheritance
- Hierchical Inheritance
- Multiple Inheritance
- Hybrid Inheritance
- Polymorphism
- Duck-Typing
- Operator overloading
- Method overloading
- Method overloading with default argument
- Method overloading with variable length argument
- Constructor overloading
- Constructor overloading with default argument
- Constructor overloading with variable length argument
- Method overriding
- Constructor overriding
- Working on Encapsulation
- Abstract method
- Abstract class
- Interface
- Concrete classes
- Access modifier

- ## File Handling in Python

- Why file is required
- What is file handling
- How to open a file
- Working with various modes of file
- Working with write() and write lines()

- Working with read() and read line() and read lines()
- Working with 'with' statement
- Working with pickling & unpickling
- Working with CSV module
- Working with Zipping and Unzipping
- Working with object serialization and object deserialization

- Exception Handling in Python
- Types of errors in programming language
- What is exception
- What is main objective of an exception
- Working with try & except block
- Working with default exception
- Working with try & except & else & finally block
- Working with nested try & except & else & finally block
- Difference between try & finally block

- Decorators in Python
- What is decorator
- Why decorator is required
- Working with @decor_name decorator
- Working with décor function

- PBDC in python
- Why PDBC
- Working XAMPP tool for MySQL Database
- How to install MySQL. Connector drivers
- Performing all database queries

- Generators in python
- What is generators
- Why do we require generators
- Working with yield keyword

- ## Multi-Threading
- What is multi-threading
- Types of multi-threading
- What is Thread
- How many ways we can create thread in python
- How to improve the application performance with threading
- Synchronization and Asynchronization

- ## Assertion in Python
- What is assertion
- Types of assertion
- Working with assert keyword to develop testcases
- Scripts for to perform debugging operations using assertion

- ## Web Scraping with Regular expression
- What is regular expression
- Working with re module in python
- Working with character classes
- Working with predefine classes
- Working with quantifiers
- Regex object for Indian mobile number
- Regex object for email
- Working with predefine functions
- match()
- fullmatch()
- search()
- findall()
- sub()
- subn()
- split()
- What is web scarping
- How to fetch real time data using web scarping process

Web development (UI or Front End)

- HTML & HTML5
- What are the software require to learn UI
- Working with Fav icon for our frontend
- Working with heading tag
- Working with formatted tag
- Working with paragraph tag
- Working with marquee tag
- Working with image tag
- Working with anchor tag
- Working with table tag
- Working with form and its components
- Developing the complete form with validation
- Working with HTML 5 tags
- Working with div tag

- CSS & CSS3
- What is CSS
- Types of CSS
- Inline CSS
- Internal CSS
- External CSS

- What are selectors and its types
- Using tag-based selector
- Using class-based selector
- Using Id selector
- Using group by selector
- Using universal selector

- Working with float property
- Working visibility property

- Working with display property
- none
- inline
- inline-block
- block
- flux
- Working with position property
- static
- absolute
- fixed
- sticky
- inherit
- Working with media query
- JavaScript
- Why JavaScript
- What is JavaScript
- How many ways we can JavaScript
- Inside the body tag
- Inside the head tag
- External JS
- Working with variable declarations
- Working with document. Write()
- Working with console.log()
- Working Dialog boxes
- Alert() or window.Alert()
- Comfirm() or window confirm()
- Prompt() or window.promprt()
- Working with Data types
- Primitive data type
- Non primitive data type
- Working with operators
- Working with control statements
- Working with events
- Working with functions
- Working with DOM
- Working with High order functions

- Working with promises in JS
- Working with OOPS in JS
- Creating a class
- Creating an object
- Constructor
- Inheritance
- Super keyword
- Encapsulation
- Prototypes
- Polymorphism

BOOTSTRAPT (4 & 5)

- Why bootstrap
- What is bootstrap
- Features of bootstrap
- What is grid system
- What are offset classes
- Working with typography
- Working with buttons
- Working with jumbotron
- Working with Progress bar
- Working with paginations
- Working with forms
- Working with cards
- Working with navbar tag
- Working with model
- Working with panel
- Working with validations states
- Working with toggle and collapse classes

AngularJS

- Prerequest to learn angularjs
- What is angular JS
- Working with angular JS directives
- Working with one way and two data binding
- Working with Angular filters

Angular Latest Version

- Introduction to typescript
- What is typescript
- How to install and develop the typescript
- What is Transpolations
- Installing of NodeJS
- How to install angular framework
- How to create an application
- File and folder structure of angular application
- Working with one way data binding
- Interpolation data binding
- Property binding
- Class binding
- Style binding
- Event binding
- Working with Two-way data binding
- Working with custom component
- Integrating bootstrap in angular
- Working with *ngFor and *ngIf and *ngSwitch
- Working with predefine pipes
- Working with custom pipes
- Working with unit testing in angular
- Working with Routing in Angular
- Working with Dependency injection with services

- Working with material view

ReactJS

- Why react compare to another framework
- What is react
- Installing of ReactJS
- File & folder structure of react application
- Functional component in ReactJS
- Class component in ReactJS
- Working with Custom component
- Working with CSS in reactJS
- Working with Bootstrap integration
- Working with JSX
- What is state in ReactJS
- States using functional component
- States using class component
- Working with Props in ReactJS
- Working with Hooks in reactJS
- Working with Redux operations
- Working with MYSQL integration in ReactJS

MYSQL OR ORACLE DATABASE

- Why database
- What is database
- What is SQL
- How to install MYSQL database
- Working with DDL commands

- create command
- alter command
- drop command
- rename command
- truncate command

- Working with DML commands
- insert command
- update command
- delete command
- select command

- Working with constrains
- primary key
- foreign key
- unique key
- null key
- Working with order by clause
- Working with where clause
- Working with having clause

- Transactional commands
- rollback
- commit
- save point
- Working with joins
- inner join
- outer join
- cross join
- full join

Django

- Prerequest to learn Django
- What is Django
- Features of Django
- How to create a project
- How to create application
- Working with complete file structure in Django after creating Django project & application

- How to create more than one application
- How to create a urls.py file at application to improve performance
- Working with MVT design pattern
- Working with templates folder for frontend development
- Working with Static folder for frontend design development
- Implementing JavaScript in Django
- Implementing bootstrap in Django
- Working with model class in Django
- Working with Django forms
- Working with Django model relationship
- One To One Relationship
- Many To One Relationship
- Many To Many Relationship

- Django Exceptions
- Working with predefine exception
- Working with custom exception
- Django ORM
- Django Cookies & Sessions implementations
- Django Custom Routing
- Django Image uploading
- Django file uploading

Django Rest Framework

- Why Django rest framework is required
- What is API
- What is Web API
- What is Rest-Ful API
- How to create restful API's using Django rest framework
- Crud operations using Django rest framework
- Working with postmen tool to test our restful API's

Flask

- Prerequest to Learn Flask
- What is Flask
- Why Flask compares to Django
- How to install flask
- How to create flask applications
- How to integrate routing in flask
- How to develop frontend development using flask
- How to connect database with flask

Flask with Flask restful with microservices

- What is flask restful
- What is microservice
- How to develop microservice based restful API'S
- Implementing the microservice using flask restful

FastAPI with Microservices

- What is Fast API
- Why FastAPI compare to flask restful & Django rest framework
- Develop the restful APIS with FastAPI with mongo DB implementation

Cloud Technologies

AWS

1. Why cloud?
2. What is AWS?
3. What is AWS IAM
4. AWS security
5. AWS Lambda
6. AWS auto scaling
7. Amazon Elastic Compute Cloud
8. Amazon S3
9. Amazon DynamoDB
10. Amazon simple queue service

Microsoft Azure

1. Why Azure as cloud service
2. What is Azure
3. Azure Kubernetes Services
4. Azure Virtual Machine
5. Azure Functions
6. Azure App service

Project_1:

Angular with Django & Django_RestFramework with MYSQL

Project_2:

React JS with Django & Django_RestFramework with MYSQL

Project_3:

Desktop Application using Tkinter and MYSQL_DB

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