

❖ OVERVIEW

- WHAT IS PYTHON
- PYTHON SYNTAX COMPARED TO THE PROGRAMMING LANGUAGES
- PROGRAM STRUCTURE

❖ STAGE-1

- INSTALLATION
- WHAT IS AN INTERPRETER?
- INTERPRETERS' VS COMPILERS
- WORKING ENVIRONMENTS
- PYTHON IDLE
- RUNNING PYTHON FILES
- WORKING WITH PYTHON SHELL
- PYCHARM PROFESSIONAL OR COMMUNITY
- LIFE CYCLE OF PYTHON

❖ STAGE-2

- WHAT IS VARIABLES?
- HOW TO CREATE IN VARIABLE?
 - SYNTAX
 - IDENTIFIER
 - ACCESSING VALUES IN VARIABLE
- WHAT IS STRING?
- HOW TO CREATE IN STRING?
 - SYNTAX
 - IDENTIFIER
 - ACCESSING VALUES IN STRINGS
- DATA TYPE
- NUMBERS
- COMPLEX
- BOOLEAN
- OPERATORS IN PYTHON
- TYPES OF OPERATOR
 - PYTHON ARITHMETIC OPERATORS
 - PYTHON ASSIGNMENT OPERATORS
 - PYTHON COMPARISON OPERATORS
 - PYTHON LOGICAL OPERATORS
 - PYTHON IDENTITY OPERATORS (IS, IS NOT)
 - PYTHON MEMBERSHIP OPERATORS (IN, NOT IN)

❖ STAGE-3

- CONTROL STRUCTURES
 - IF STATEMENT
 - IF - ELSE
 - IF - ELIF – ELSE
 - NESTED IF ELSE STATEMENTS
 - BREAK STATEMENT
 - CONTINUE STATEMENT
 - PASS STATEMENT
 - EVEN OR ODD NUMBER
 - POSITIVE OR NEGATIVE NUMBER
 - CHECK WHETHER A CHARACTER IS A VOWEL OR CONSONANT

❖ STAGE-4

- LOOP AND DECISION MAKING
 - WHAT IS WHILE?
 - WHILE LOOP
 - FOR LOOP
 - SUM OF DIGITS OF A NUMBER

❖ STAGE-5

- WHAT IS ARRAY?
 - WHAT IS LIST
 - WHAT IS TUPLE
 - WHAT IS SET
 - WHAT IS DICTIONARY

❖ STAGE-6

- LIST
 - HOW TO CREATE LIST?
 - ACCESSING ELEMENTS FROM LIST
 - LIST OF INTEGERS
 - LIST INDEX
 - LIST SLICING
 - SIZE OF LIST
 - BASIC LIST OPERATIONS
 - MULTI-DIMENSIONAL LIST
 - LIST METHODS(KEYS)

- **TUPLE**

- HOW TO CREATE TUPLE
- ACCESSING ELEMENTS FROM TUPLE
- UNPACK TUPLE ELEMENTS
- UPDATE TUPLE ELEMENTS
- DELETE TUPLE ELEMENTS

- **SETS**

- HOW TO CREATE SETS
- ACCESSING ELEMENTS FROM SETS
- JOIN SETS
- UPDATE SETS ELEMENTS
- DELETE SETS ELEMENTS
- MODIFYING A SETS ELEMENTS
- SETS METHODS (KEYS)

- **DICTIONARY**

- HOW TO CREATE DICTIONARY
- ACCESSING ELEMENTS FROM DICTIONARY
- DICTIONARY COMPREHENSION
- ADDING DICTIONARY ELEMENTS
- DICTIONARY BUILT-IN FUNCTIONS
- DICTIONARY METHODS (KEYS)

❖ **STAGE-7**

- **FUNCTION**

WHAT IS FUNCTION?

- HOW TO CREATE FUNCTION
- SYNTAX
- CREATE A FUNCTION
- CALLING A FUNCTION
- FUNCTION ARGUMENT
- FUNCTION ARGUMENT WITH DEFAULT VALUES
- FUNCTION KEYWORD ARGUMENT
- RETURN STATEMENT FUNCTION
- CALCULATOR CREATE IN FUNCTION
- SIGNUP AND LOGIN CREATE IN FUNCTION

❖ STAGE-8**• OOPS CONCEPT**

- CREATING CLASS IN PYTHON
- DOCUMENT STRING
- PRIVATE IDENTIFIER
- OBJECT
- POLYMORPHISM
- ENCAPSULATION
- INHERITANCE
- DATA ABSTRACTION

❖ STAGE-9**• SQL DATABASE**

- WHAT IS SQL?
 - INTRODUCTION
 - SYNTAX
 - CREATE DATABASE
 - DROP DATABASE
 - BACKUP DATABASE
 - CREATE TABLE
 - ALTER TABLE
 - SELECT
 - SELECT DISTINCT SYNTAX
 - SELECT DISTINCT
 - SELECT WHERE SYNTAX
 - SELECT WHERE
 - AND
 - OR
 - NOT
 - ORDER BY
 - INSERT INTO
 - UPDATE
 - DELETE
 - MIN AND MAX
 - COUNT
 - AVG
 - SUM
 - JOIN
 - INNER JOIN
 - RIGHT JOIN
 - LEFT JOIN
 - FULL JOIN

❖ **STEP-10**● **MYSQL WITH PYTHON**

- ENVIRONMENT SETUP
- DATABASE CONNECTION
- CREATE NEW DATABASE
- CREATE TABLE
- INSERT OPERATION
- READ OPERATION
- UPDATE OPERATION
- DELETE OPERATION

❖ **STAGE-11**● **TYPES OF ERRORS**● **EXCEPTION HANDLING**

- WHAT IS TRY?
- TRY
- EXCEPTS OR EXCEPT EXCEPTION (E)
- ELSE
- FINALLY

❖ **STAGE-12**

- ☐ PROJECT-1
- ☐ USING THIS PROJECT IF-ELIF-ELSE, FOR LOOP, SQL, TRY, EXCEPT EXCEPTION(E), FINALLY
- ☐ CONVERTING IN EXE

❖ **STAGE-13**● **MODULES AND PACKAGES**

- FRAME WORK VS PACKAGES
- FOLIUM INTRODUCTION
- CREATING MODULES
- IMPORT STATEMENT
- FROM IMPORT STATEMENT
- FROM IMPORTSTATEMENT
- LOCATING MODULE

❖ **STAGE-14**● **FILE MANIPULATION**

- LIFE CYCLE
- HOW TO WRITE DATA?
- READ METHOD ()
- WRITE METHOD()
- CLOSE METHOD ()
- REMOVE METHOD ()

➤ **ADVANCED PYTHON**

❖ **STAGE-15**

● **ITERATOR AND GENERATOR**

- MAP
- LAMBDA
- FILTER
- GENERATORS & ITERATORS

❖ **STAGE -16**

● **GUI –TKINTER**

- WHAT IS TKINTER?
- CREATE A TEXTBOX
- CREATE A LABEL
- CREATE A RADIO BUTTON
- CREATE A CHECK BUTTON
- MENU BAR
- MESSAGE BOX
- TKINTER SCROLL
- TKINTER SCALE
- TKINTER DATE PICKER
- CREATING GUI APPLICATION
- CONNECTING WITH SQLITE

❖ **STAGE -17**

● **PROJECT-2**

- CREATE A TKINTER APP(WITH SQL)

❖ **STAGE -18**

● **FAST API**

- WHAT IS API?
- GET METHOD ()
- POST METHOD ()
- PUT METHOD ()
- DELETE METHOD ()

❖ **STAGE- 19**

● **PROJECT-3**

● **FASTAPI**

- CREATE A ECOMMERCE API
(APPLICATION PROGRAMMING INTERFACE)

❖ STAGE – 20**• NUMPY**

- INTRODUCTION ABOUT NUMPY
- NUMPY PACKAGE CREATION
- ARRAY CONCEPTS
- NUMPY INDEXING SLICING
- NUMPY DATATYPES
- NUMPY SHAPE
- NUMPY RESHAPE
- NUMPY ITERATION
- NUMPY JOIN
- NUMPY SPLIT
- NUMPY SEARCH
- NUMPY SORT

❖ STAGE – 21**• HTML**

- HTML INTRODUCTION
- HTML BASIC
- HTML ELEMENTS
- HTML ATTRIBUTES
- HTML HEADING
- HTML PARAGRAPH
- HTML STYLE
- HTML FORMATTING
- HTML COMMENT TAG
- HTML COLOURS
- HTML LINKS
- HTML IMAGE
- HTML FAVICON
- HTML PAGE TITLE
- HTML TABLE
- HTML LIST
- HTML BLOCK AND INLINE
- HTML DIV
- HTML CLASS
- HTML ID
- HTML FRAME
- HTML JAVASCRIPT
- HTML FILE PATH
- HTML HEAD
- HTML LAYOUT
- HTML RESPONSIVE

- HTML COMPUTER CODE ELEMENT
- HTML SEMANTICS
- HTML ENTITIES
- HTML SYMBOLS
- HTML EMOJIS
- HTML CHARACTER SET
- HTML MEDIA
- HTML VIDEO
- HTML AUDIO
- HTML PLUG-IN

- **CSS**

- CSS INTRODUCTION
- CSS SYNTAX
- CSS SELECTORS
- CSS COMMENTS
- CSS COLOR
- CSS BACKGROUND
- CSS BORDER
- CSS MARGINS
- CSS PADDING
- CSS HEIGHT / WIDTH
- CSS BOX MODEL
- CSS OUTLINE
- CSS TEXT
- CSS FONTS
- CSS ICONS
- CSS LINKS
- CSS LISTS
- CSS TABLES
- CSS DISPLAY
- CSS MAX-WIDTH
- CSS POSITION
- Z-INDEX
- CSS OVERFLOW
- CSS FLOAT
- CSS INLINE-BLOCK
- CSS ALIGN
- CSS NAVIGATION BAR
- CSS DROPDOWN
- CSS IMAGE GALLERY
- CSS ATTRIBUTE
- CSS FORMS

❖ CSS ADVANCE

- CSS ROUNDED CORNERS
- CSS BORDER IMAGES
- CSS BACKGROUNDS
- CSS COLOURS
- CSS COLOR KEYWORDS
- CSS GRADIENTS
- CSS SHADOWS
- CSS TEXT EFFECTS
- CSS WEB FONTS
- CSS 2D TRANSFORMS
- CSS 3D TRANSFORMS
- CSS TRANSFORMS
- CSS ANIMATIONS
- CSS TOOLTIPS
- CSS STYLE IMAGES
- CSS IMAGE REFLECTION
- CSS OBJECT-FIT
- CSS MASKING
- CSS BUTTONS
- CSS PAGINATION
- CSS MULTIPLE COLUMNS
- CSS USER INTERFACE
- CSS VARIABLES
- CSS BOX SIZING
- CSS MEDIA QUERIES
- CSS FLEXBOX

❖ BOOTSTRAP

- INTRODUCTION ABOUT BOOTSTRAP
- GRID BASICS
- BOOTSTRAP TABLES
- BOOTSTRAP IMAGES
- BOOTSTRAP BUTTONS
- BOOTSTRAP COLLAPSE
- BOOTSTRAP SPINNERS
- BOOTSTRAP JUMBOTRON
- BOOTSTRAP PROGRESS BAR
- BOOTSTRAP PAGINATIONS
- BOOTSTRAP ICONS
- BOOTSTRAP NAVIGATION BAR
- BOOTSTRAP DROPDOWNS
- BOOTSTRAP FORMS
- BOOTSTRAP SLIDE
- BOOTSTRAP TOOLTIP

- BOOTSTRAP POPOVER
- BOOTSTRAP TOAST
- BOOTSTRAP SCROLLSPY

❖ JAVA SCRIPT

- JS INTRODUCTION
- JAVA SCRIPT OUTPUT
- JAVA SCRIPT STATEMENTS
- JAVA SCRIPT SYNTAX
- JAVA SCRIPT COMMENTS
- JAVA SCRIPT VARIABLES
- JAVA SCRIPT LE3T
- JAVA SCRIPT CONST
- JAVA SCRIPT OPERATOR
- JAVA SCRIPT DATA TYPES
- JAVA SCRIPT STRING
- JAVA SCRIPT S NUMBER
- JAVA SCRIPT S BIGINT
- JAVA SCRIPT BOOLEAN
- JAVA SCRIPT UNDEFINED
- JAVA SCRIPT NULL
- JAVA SCRIPT S SYMBOL
- JAVA SCRIPT S OBJECT
- JAVA SCRIPT FUNCTION
- JAVA SCRIPT OBJECT
- JAVA SCRIPT EVENT
- JAVA SCRIPT STRING
- JAVA SCRIPT STRING METHODS
- JAVA SCRIPT STRING TEMPLATES
- JAVA SCRIPT NUMBER
- JAVA SCRIPT BEGIN
- JAVA SCRIPT NUMBER METHOD
- JAVA SCRIPT ARRAYS
- JAVA SCRIPT ARRAYS METHODS
- JAVA SCRIPT ARRAYS SORTS
- JAVA SCRIPT ARRAY COST
- JAVA SCRIPT SET METHODS
- JAVA SCRIPT RANDOM
- JAVA SCRIPT IF ELSE
- JAVA SCRIPT SWITCH
- JAVA SCRIPT LOOP FOR
- JAVA SCRIPT LOOP WHILE
- JAVA SCRIPT BREAK
- JAVA SCRIPT SETS
- JAVA SCRIPT TYPE OF

- JAVA SCRIPT SCOPE
- JAVA SCRIPT HOISTING
- JAVA SCRIPT STRICT
- JAVA SCRIPT THIS KEYWORDS
- JAVA SCRIPT ARROW FUNCTION
- JAVA SCRIPT MODULES
- JAVA SCRIPT JSON
- JAVA SCRIPT DEBUGGING
- JAVA SCRIPT STYLE GUIDE
- JAVA SCRIPT PERFORMANCE

❖ JQUERY

- JQUERY INTRODUCTION
- JQUERY SYNTAX
- JQUERY SELECTORS
- JQUERY CLASS SELECTORS
- JQUERY ID SELECTORS
- JQUERY EVENT HANDLER
- JQUERY SHOW AND HIDE CONCEPTS
- JQUERY FADE
- JQUERY ANIMATIONS

❖ DJANGO FRAME WORK

- INTRODUCTION TO DJANGO
 - FEATURES OF DJANGO
 - DJANGO WEB SERVER
 - UNDERSTANDING DJANGO ENVIRONMENT
 - A SIMPLE 'HELLO WORLD' APPLICATION
- DJANGO ARCHITECTURE
- MVC AND MTV
- STARTING A PROJECT
- DJANGO APPS
- ACTIVATING OUR FIRST APP
- A VIEW THAT DISPLAYS A HYPERLINK
- MAPPING THE VIEWS TO URLS
- RUNNING OUR FIRST APP
- IMPROVING THE VIEWS USING TEMPLATES
- THE IMPROVED TEMPLATES
- TEMPLATE INHERITANCE
- SENDING DATA FROM URL TO VIEW
- SENDING DATA FROM VIEW TO TEMPLATE

❖ CREATING A WEBAPPLICATION

- STARTING A PROJECT
- CREATING AN APP INSIDE THE PROJECT
- ACTIVATING THE APP
- CREATING MODEL FOR OUR SITE
- CONVERTING THE MODEL INTO A TABLE
- EXAMPLES FOR FIELDS IN MODELS
- BASIC DATA ACCESS USING DJANGO SHELL
- SAVING OBJECTS INTO DATABASE
- RETRIEVING OBJECTS FROM DATABASE
- MODIFYING OBJECTS OF DATABASE
- SORTING OBJECTS
- FILTERING OBJECTS
- DELETING OBJECTS

❖ CREATING ADMINISTRATION PANEL

- USING THE ADMIN INTERFACE
- CUSTOMIZING THE ADMIN INTERFACE
- ADDING USERS
- DATA ACCESS AND MODIFICATION USING ADMIN PANEL
- GIVING PERMISSIONS TO USERS
- CREATING FIRST PAGE OF OUR SITE
- THE DJANGO TEMPLATE SYSTEM
- TEMPLATE INHERITANCE
- IMPROVING THE WEBSITE
- ADDING BACKGROUND COLOR FOR WEB PAGES
- ADDING BANNER TO THE WEB SITE
- ADDING BACKGROUND IMAGE IN THE WEB PAGES
- STORING AND DISPLAYING IMAGES
- ADDING USERS TO OUR SITE
- UPLOADING THE INFORMATION BY USER
- CHANGING THE ADMINISTRATION INTERFACE TITLE

❖ DJANGO TEMPLATE TAGS

- IF/ELSE
- IF/ELIF/ELSE
- FOR
- COMMENTS
- FILTERS
- USING TEMPLATES TO DISPLAY DATA IN THE SITE
- INTEGRATING BOOTSTRAP INTO DJANGO
- INTRODUCTION TO BOOTSTRAP
- CREATING TABLES
- USING OTHER DATABASES IN DJANGO
- USING SQLITE
- CONFIGURING MYSQL DATABASE
- WORKING WITH MYSQL IN DJANGO

- CONFIGURING ORACLE DATABASE
- WORKING WITH ORACLE IN DJANGO

❖ **DJANGO RESTFUL API**

- CRUD OPERATIONS

