**Python Day 1 (10-11-2024)**

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**Python topics to be covered:**

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| Introduction to python | Python and its Feature History of the Python Writing and Running First program Keywords & Identifiers Variables & Operators Data Types Numeric Sequence Boolean |
| Control Structure | If statement If-else statement If-elif-else statement Control Structure For Loop While Loop Nested Loop Break, Continue & Pass Input and Output Introduction to Lists List Methods and Slicing Introduction to Dictionaries & Dictionary Methods Introduction to Set & Set Methods Introduction to Map & Map Methods |
| Functions | Mapping function String Function Number Function Date and Time Function Python Functions Default Argument Values Keyword Arguments Special parameters Arbitrary Argument Lists Lambda Expressions |
| OOPS | OOPS Class and Object Access Specifiers |
| OOPS | Constructor Inheritance Polymorphism Method Overriding Access specifires |
| File handling | Text Files & Binary Files |
| Modules & Package | Python Modules Userdefined Modules Executing modules as scripts Standard Modules Packages Importing \* From a Package Intra-package References Packages in Multiple Directories |
| Exception Handling | Handling an exception try….except…else try-finally clause Argument of an Exception Python Standard Exceptions Raising an exceptions User-Defined Exceptions |
| Database with Python | Create Database Connection CREATE, INSERT, READ, UPDATE and DELETE Operation |

**Question solved to cover topic 1 (introduction to python):**

Design a Python program to create a simple "About Python" interactive script. In this script, your tasks are:

1. **Introduction to Python**:
   * Print an introductory message about Python, mentioning its history, key features, and why it is widely used.
2. **Data and Variables**:
   * Define and initialize variables for each basic data type in Python (Numeric, Sequence, Boolean) using meaningful keywords and identifiers.
   * Include an example that uses different types of operators (arithmetic, comparison, and logical).
3. **User Interaction**:
   * Prompt the user to input their name, age, and Python experience level (beginner, intermediate, advanced).
   * Based on the user’s input, print a personalized message, utilizing different data types.
4. **First Program Simulation**:
   * Include a small function that prints "Hello, World!" and explain why this is often considered a first program for beginners.
5. **Explanation of Concepts**:
   * Use comments throughout your code to explain the purpose of keywords and identifiers used, such as if, else, def, print, etc.
   * Explain any boolean operations used in your code, and demonstrate a few with conditional statements.
6. **Running the Program**:
   * Outline instructions on how to run the script in different environments (IDLE, terminal, etc.) and save the program as a .py file.

**Solution:**

class about\_python():

    def \_\_init\_\_(self): **# Writing and Running First program**

        print("Hello world! This an interactive script app. Let's know about python.\n")

    def msg(self):

        print("Python started out as a computer language in the late 1980s and has since\

               become one of the most widely used languages worldwide. Created by Guido van\

               Rossum and first released in 1991, Python’s simplicity,readability, and versatility\

               have made it a favorite among developers, educators, and industry professionals.\n")

        print("let's explore more applications! \n")

    def is\_name(self):

        return True **# boolean operations**

    def explore(self):

        name = input("enter name: ") **# Data and Variables , User Interaction**

        age =int(input("age: ")) **#numeric value int**

        if age <= 5: **#conditional statements if**

            print("not eligible for student status")

elif age >5: **#conditional statements elif**

        level = input("Python experience level (beginner, intermediate, advanced): ")

else: **#conditional statements else**

print(“Invalid age input’)

        if about\_python.is\_name:

            print("data added ", name)

about\_python()

about\_python.msg(1)

about\_python.explore(1)

**Output:**



