**Python training:**

**Course Name:** **Python**

**Start Date: 20 Feb 2023**

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**Expectation:**

**Attend in class training and then do self-learning/Hands on practice**

**To-Do list:**

**Self-study:**

1. **Go Through the E-BOX:**

Complete the relevant modules.

**Software:**

1. Try below installation-

On Windows Platform - Python 3.x on windows Install Python 3.x on windows using below link: <https://www.python.org/downloads/>

**OR**

Anaconda installation on Windows

Use the link: <https://www.anaconda.com/products/individual>

**OR**

1. Online Python interpreter:

<https://www.onlinegdb.com/online_python_interpreter>

or

<https://www.online-python.com/>

**Documentation:** Refer Python Manual doc as shown in below screen shot-

Graphical user interface, application, Teams

Description automatically generated

**Topics Covered :**

**Day1 :20th Feb 2023**

|  |
| --- |
| Python Introduction, Features |
| Setup the Python Programming Environment, Python Installation |
| Variables |
| Comments |
| Dynamic Vs Static Typing |
| Built-in types : int, float, str |
| Numbers and Math operators |
| Conversions |
| Comparison and other operators |
| Built-in functions: print, type, input, int, float, ord, hex, oct… etc. |

**Day2 :21st Feb 2023 (Tue)**

Strings in Python  
 User Inputs  
 String Indexing and Operations  
 String Slicing  
 Formatting Strings  
 String Methods

for loop

range()

list conversion : list()

print () function default parameters :sep =” ” , end =”\n”, file =sys.stdout, Flush = False

**Day3 :22nd Feb 2023 (Wed)**

Lists in Python

Intro to Lists

List Operations

List methods

Tuples in Python

Intro to Tuples

Tuple Operations

Tuple methods

Tuples Vs. Lists(Immutable, Mutable)

for loop on List, Tuple, for loop with range() diff

**Day4 :1st Mar 2023 (Wed)**

List sort() key, reverse parameters

pass keyword

List Comprehension

String split () method

sorted(), reversed() function

**Random/Unordered :** Set, Dictionary – Mutable

**NO N**umerical Indexing concept.

For loop on set, dict

Methods of set –

Methods of Dictionary

TyepErroe, IndexError, KeyError, AttributeError etc….

**Day5 :2nd Mar 2023 (Thu)**

Set, Dict, methods…contd…

Dictionary Comprehension

Complex Data structures: Dict with inner list, Dict with inner Dict

**\*\*\*\*\*Assignments**

**Day1: 20 Feb (Monday)**

**Execute all the shared sample codes in “Day1\_20Feb” folder first.**

1. Accept 2 numbers from user and print addition, subtraction.
2. Accept a number, print the square of it.
3. Accept a password, if it matches with “PYthonic@#20” then print the message as “Correct Password, Welcome!!”

Else “Incorrect Password, Sorry! Access Denied!”

**Day2: 21 Feb (Tuesday)**

**Execute all the shared sample codes in “Day2\_21Feb” folder first.**

1. Accept a string, check whether it is palindrome

Eg. “madam”

1. Display three string “Name”, “Is”, “James” as “Name\*\*Is\*\*James”

*(Hint: Just 1 line code)*

1. Convert Decimal number to octal using print() output formatting

*(Hint: Just 1 line code)*

4. Write a program to print the following number pattern using a loop.

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

### 5.Calculate the sum of all numbers from 1 to a given number.

### 6. Write a program to display below Star (asterisk) patterns in Python.

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\* \*

\* \* \*

\* \* \* \*

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**Day3: 22 Feb (Wednesday)**

**Execute all the shared sample codes in “Day3\_22Feb” folder first.**

1. Let’s say I give you a list saved in a variable: a = [1, 4, 9, 16, 25, 36, 49, 64, 81, 100].

Write Python code that takes this **list a** and makes a new **list b** that has only the even elements of this list in it.

1. List sorting

sort the list of following names by –

1. an ascending order of words
2. descending order of words
3. an ascending order of number of letters in each name

unsortedList = ['Aaaa', 'bb', 'cccccccc', 'zzzzzzzzzzzz']

3.You have given a Python list. Write a program to find value 20 in the list, and if it is present, replace it with 200. Only update the first occurrence of an item.

Given: list1 = [5, 10, 15, 20, 25, 50, 20]

Expected output:

[5, 10, 15, 200, 25, 50, 20]

4.Accept scores of a student for 5 topics from keyboard and then print the total score and % score.

**Day4: 1 mar (Wednesday)**

**Execute all the shared sample codes in “Day4\_1 Mar” folder first.**

1. Let’s say I give you a list saved in a variable: a = [1, 4, 9, 16, 25, 36, 49, 64, 81, 100].

Write one line of Python that takes this **list a** and makes a new **list b** that has only the even elements of this list in it.

1. Write a program to find the largest number among the three input numbers.
2. Accept the content from keyboard for empdata. Store it in a dictionary -“empdata”

Print all emp details on separate lines.

Print the total sal.

*Sample keyboard Input-*

*1a:25000*

*2a:30000*

*3a:60000*

**Day5: 2 mar (Thursday)**

**Execute all the shared sample codes in “Day5\_2 Mar” folder first.**

1. Accept the content from keyboard for empdata. Store it in a dictionary -“empdata”

Print all emp details on separate lines.

Print the total sal.

*1a:ABC:25:25000*

*2a:XYZ:30:30000*

*3a:LMN:45:60000*

Hint: store the data in dictionary and then process, 1a, 2a, 3a are the keys and rest all is the value section data respectively.

Sample O/P

Emp ID : 1a Details:

Name: ABC

Age : 25

Sal : 25000

Emp ID : 2a Details:

Name: XYZ

Age : 30

Sal : 30000

Emp ID : 1a Details:

Name: LMN

Age : 45

Sal : 60000

Total Salary = 115000

**Folder hierarchy to be followed:**

**PythonAssignments\** Day1\_20Feb

\ Day2\_21Feb

\Day3\_22Feb

\Day4\_1 Mar

\Day5\_2 Mar

….etc