About this note: -

* This is the notes of python that you can print out or write in your copy.
* Words that are underline, bold and red in colour. They are the codes of python.
* This note will help you to understand the python in deeply and will clear out all your doubts.
* I have you given you my python codes in github
* You can download those python codes by the below link:-

<https://github.com/Ishaan-Programmer/CodeXKings-Tutorial>

**Day 1**

**HISTORY**

* Inventor of Python – Guido Van Rossum
* In the year 1991
* Python word derived from “Monty Python’s Flying Circus”

**WHAT IS PROGRAMMING?**

Just like we use Hindi or English to communicate with each other, we use a programming language like Python to communicate with the computer. Programming is a way to instruct the computer to perform various tasks.

**WHAT IS PYTHON?**

Python is a simple and easy to understand language which feels like reading simple English. This Pseudo code nature is easy to learn and understandable by beginners.

**FEATURES OF PYTHON:-**

• Easy to understand = Less development time

• Free and open source

• High level language

• Portable: Works on Linux / Windows / Mac.

• Fun to work with!

INSTALLATION Python can be easily installed from python.org. When you click on the download button, python can be installed right after you complete the setup by executing the file for your platform.

**Day 2**

**CHAPTER 1 – MODULES, COMMENTS & PIP**

Let’s write our very first python program. Create a file called hello.py and paste the below code in it.

**print("hello world") # print is a function (more later) Execute this file (.py file) by typing python hello.py and you will see Hello World printed on the screen.**

**MODULES**

A module is a file containing code written by somebody else (usually) which can be imported and used in our programs.

**PIP**

Pip is the package manager for python. You can use pip to install a module on your system. pip install flask # Installs Flask Module

**TYPES OF MODULES**

**There are two types of modules in Python:-**

1. Built in Modules (Preinstalled in Python)

2. External Modules (Need to install using pip)

Some examples of built in modules are os, random etc.

Some examples of external modules are tensorflow, flask etc.

**USING PYTHON AS A CALCULATOR**

We can use python as a calculator by typing “python” + ↵ on the terminal. This opens **REPL** or Read Evaluate Print Loop.

**COMMENTS**

Comments are used to write something which the programmer does not want to execute. This can be used to mark author name, date etc.

**TYPES OF COMMENTS**

**There are two types of comments in python:-**

1. Single Line Comments: To write a single line comment just add a ‘#’ at the start of the line.

**# This is a Single-Line Comment**

1. Multiline Comments: To write multi-line comments you can use ‘#’ at each line or you can use the multiline string (""" """)

**"""This is an amazing example of a Multiline comment!"""**

**Day 2**

**Practice – Set of Chapter 1**

1. Write a program to print Twinkle Twinkle little star poem in python.
2. Use REPL and print the table of 5 using it.
3. Install an external module and use it to perform an operation of your interest.

4. Write a python program to print the contents of a directory using the os

module. Search online for the function which does that.

5. Label the program written in problem 4 with comments.

***\*In Question 4 & 3 you can search in online or in chat gpt\****

**Day 3**

**Doubt Class regarding the practice-set**

**Day 4**

**CHAPTER 2 – VARIABLES AND DATATYPE**

**VARIABLES**

* A variable is the name given to a memory location in a program.

For example:-

**a = 30 # variables = container to store a value.**

**b = "harry" # keywords = reserved words in python**

**c = 71.22 # identifiers = class/function/variable name**

**DATA TYPES**

* Primarily these are the following data types in Python:

1. Integers

2. Floating point numbers

3. Strings

4. Booleans

5. None

* Python is a fantastic language that automatically identifies the type of data for us.

**a = 71 # identifies a as class <int>**

**b =88.44 # identifies b as class <float>**

**name = "ishaan" # identifies name as class <str>**

**RULES FOR CHOOSING AN IDENTIFIER**

* A variable name can contain alphabets, digits, and underscores.
* A variable name can only start with an alphabet and underscores.
* A variable name can’t start with a digit.
* No while space is allowed to be used inside a variable name.
* Examples of a few variable names are: ishaan, one8, seven, \_seven etc. **OPERATORS IN PYTHON**
* Following are some common operators in python:

1. Arithmetic operators: +, -, \*, / etc.

2. Assignment operators: =, +=, -= etc.

3. Comparison operators: ==, >, >=, !=

4. Logical operators: and, or, not.

**TYPE() FUNCTION AND TYPECASTING**

* type() function is used to find the data type of a given variable in python.

**a = 31**

**type(a) # class <int>**

**b = "31"**

**type (b) # class <str>**

* A number can be converted into a string and vice versa (if possible)
* There are many functions to convert one data type into another.

str(31) =>"31" # integer to string conversion

int("32") => 32 # string to integer conversion

float(32) => 32.0 # integer to float conversion … and so, on

* Here "31" is a string literal and 31 a numeric literal.

**INPUT () FUNCTION**

* This function allows the user to take input from the keyboard as a string.

**a = input ("enter name") # if a is "ishaan", the user entered ishaan**

* It is important to note that the output of input is always a string (even is a number is entered).