Python:

**How to import data from other file:**

**Syntax:🡪** from filename import Variable/method 🡪like: from index import x

When we import something from other file it automatically create a folder (“\_\_pycache\_\_”) and a file (“chai.cpython.pyc”) inside it.

When we run the code it generates a bytecode which is chai.coython.pyc, then this file data goes to the virtual machine and out code runs.

**Code Running Steps:**

* compile to byte code (byte code is low level and platform independent)🡪 byte code can be can on virtual machine the virtual machine can be anywhere it can be on local machine, browser, on server or on other machine.
* byte code run faster also know as frozen binaries.
* \_\_pycache\_\_ analyze source code changes and the python version.
* Folder created after importing the files.

**Virtual Machine:**

* It is a software which run pyhton source code
* Inide it a loop runs continuously to iterate byte code (interpreted language🡪code run line by line)
* Run time engine
* Byte code is not machine code.

**Types of python:**

* Cpython🡪 it is standard python that we used in 95% of cases.
* Jython
* Iron python
* Stackless
* Pypy

**Python libraries:**

Python contains many built-in libraries which we can import and use, like os,sys,importlib

When we do work in terminal and want to import file and all its data then we can simply import, but when we import file and after that we add data in that file after importing then new data will not be accessible in terminal, it is bcz when we imported that file it converted that file into byte code, if we want to use new data then we have to reload the terminal so it can reconvert this file into the byte code.

**Mutable and Immutable in python:**

Mutables are changeable, bcz it worked as by reference.

Immutable are not working as referance and it makes a copy to change value and previous copy will remain same value.

**How to check methods of datatype**:

dir(varName/dataType)🡪 e.g. dir([1,4])🡪it will give list of methods applicable on list

**Note:** the variables in python do not have any datatype but the values in memory contains datatype.

The garage collection for string and numbers are done after some time.

**Doubly linkedList:**

In doubly linkedList one node contains two pointers, the next pointer which points the next node and previous pointer to point node.

We can traverse in both directions in doubly linkedList.

It take more space than singly linkedlist

**== vs is:**

when we compare by using == it compare the value

we compare by using “is” it checks the reference.

Repr vs str vs print

**Numbers:**

We can import math library which bring some extra features. like floor(), trunc()

We can also use third party libraries.

Floor gives the single value after precising the point values. 🡪-2.999(-3 is lowest)

Trunc🡪 it take single value which is nearer the 0. Like 3.999(3 is nearer) -1.2313(-1 is nearer)

Imaginary numbers can be handle🡪 like iota

3+4J 🡪(3+4j)

Pythn can handle all types of scientific and financial maths.

We can simply do calulation or by using methods

It is so big so explore it according to your stream line

Example Code:

import math  
a=math.floor(3.111) 🡪 3  
print(a)  
  
b= math.trunc(-34.222) 🡪 -34  
print(b)  
  
print(1+ math.tan(5)) 🡪 -2.380515006246586

**Bit wise Operators**: