**What is type casting ?**

Converting object or variable from one data type to another

**Immutable vs Mutable Data Types**

Immutable :- Object or Variable that cannot be changed

Mutable :- This can be modified while the code is running.

**Difference between Append and Extend**

Append :- it adds only one element to the list at the end of the list. It cannot add more than one element.

Extend :- It increases the length of list by the number of total values in the other list. One or more elements can be added using this method.

**What is the difference between sort and sorted methods in python lists**

Both are used to sort elements in the python

Sort :- it changes the list directly without returning any values

Sorted :- it returns a new list with sorted variables that needs to be saved in other variable.

**Append/Insert/Push**

Append :- Place any value at last of the list (without index)

Insert :- Place any ONE value anywhere in list (with index)

Push :- **AttributeError: 'list' object has no attribute 'push'**

**Difference between Insert vs Append vs Extend**

Append :- Place any value at last of the list (without index)

Insert :- Place any ONE value anywhere in list (with index)

Extend :- Places another list in current list but at the end (without indexing)

**Pop vs Remove vs Del**

Pop :- removes the item at a specific index and returns it (with index)

Remove :- removes the first matching value (without index)

Del :- removes the item at a specific index (with index)

**List vs Tuple**

List :-

* Mutable
* Read access is slower than tuple as it can be changed while code is running.
* Mostly modified data is stored in form of list

Tuple :-

* Immutable
* Read access is much faster as it does not change while coding hence memory id remains same.
* It is used to store raw data.

**What is Duck Typing**

Very big concept. But in short :-

If the class has the function and it works than its is good to go. You do not need to check the type or class of the object but can use the functions as long as they work.

**Deep copy vs Shallow copy**

Deep Copy :- This copies the data as well as the as address of one variable into another. This is done by = sign. When data of one variable is changed the data of other variable is also changed.

Shallow Copy :- This only copies the content of one variable to another and creates a new variable with same data and different memory address. When data in any one variable is changed the other variable will remain the same. This is done by running .copy() code.