* Data structure in Python :

① List

② Set

③ Dictionary

④ Tuple

List

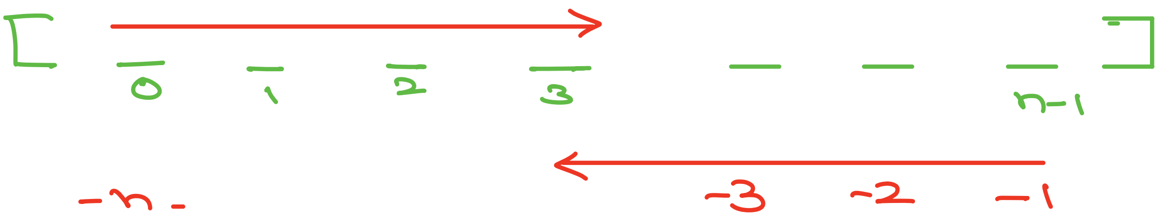
① List is heterogeneous

② Lists are Dynamic

③ List are mutables

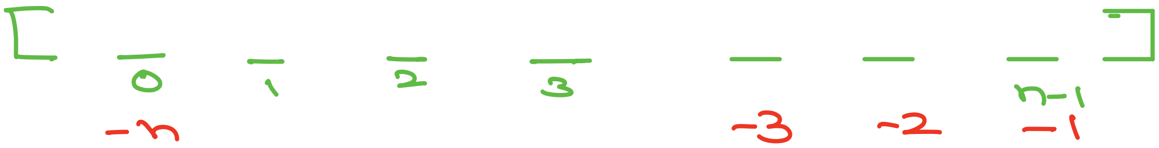
Indexing

length = n



Slicing

⇒ Access set of Elements



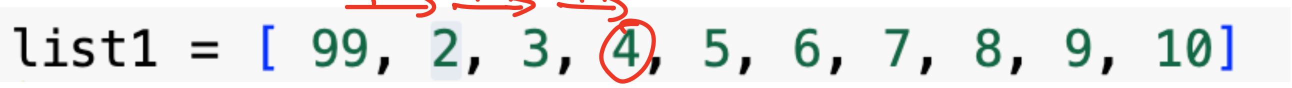
list1 [start : End : jump]

End ↓ (end is Not included)

jump ↓ default = 1

list1[0:4:1]

+1 +1 +1

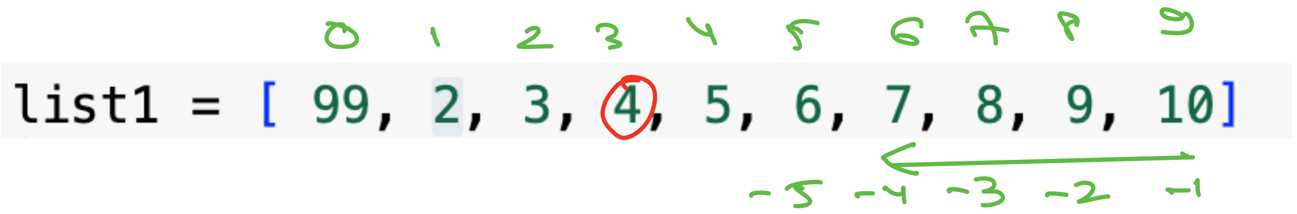


```
list1 = [ 99, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

+2 +2 X

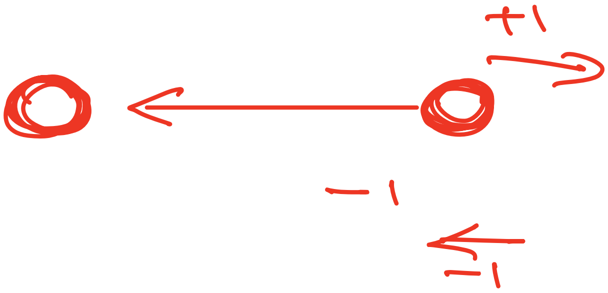
list1[0:4:2]

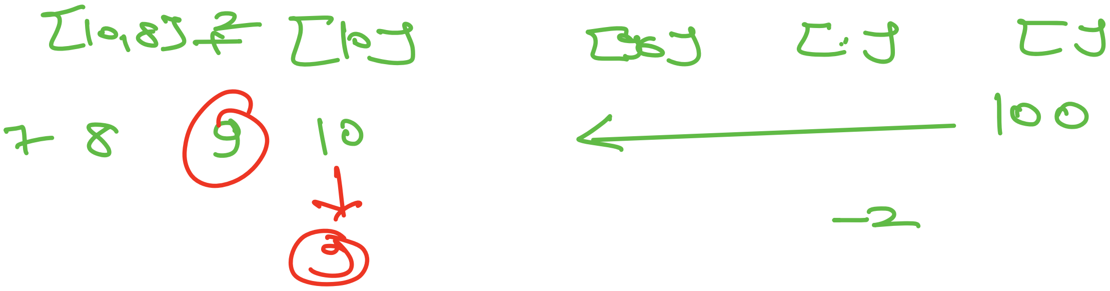
99, 3



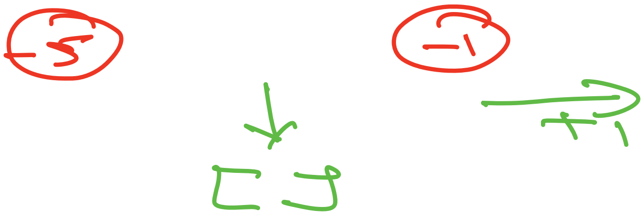
```
list1 = [ 99, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

list1[-1 : -5 :-1]





list [-1 :-5 : 1]



Tuples

- Immutable lists

Dictionary

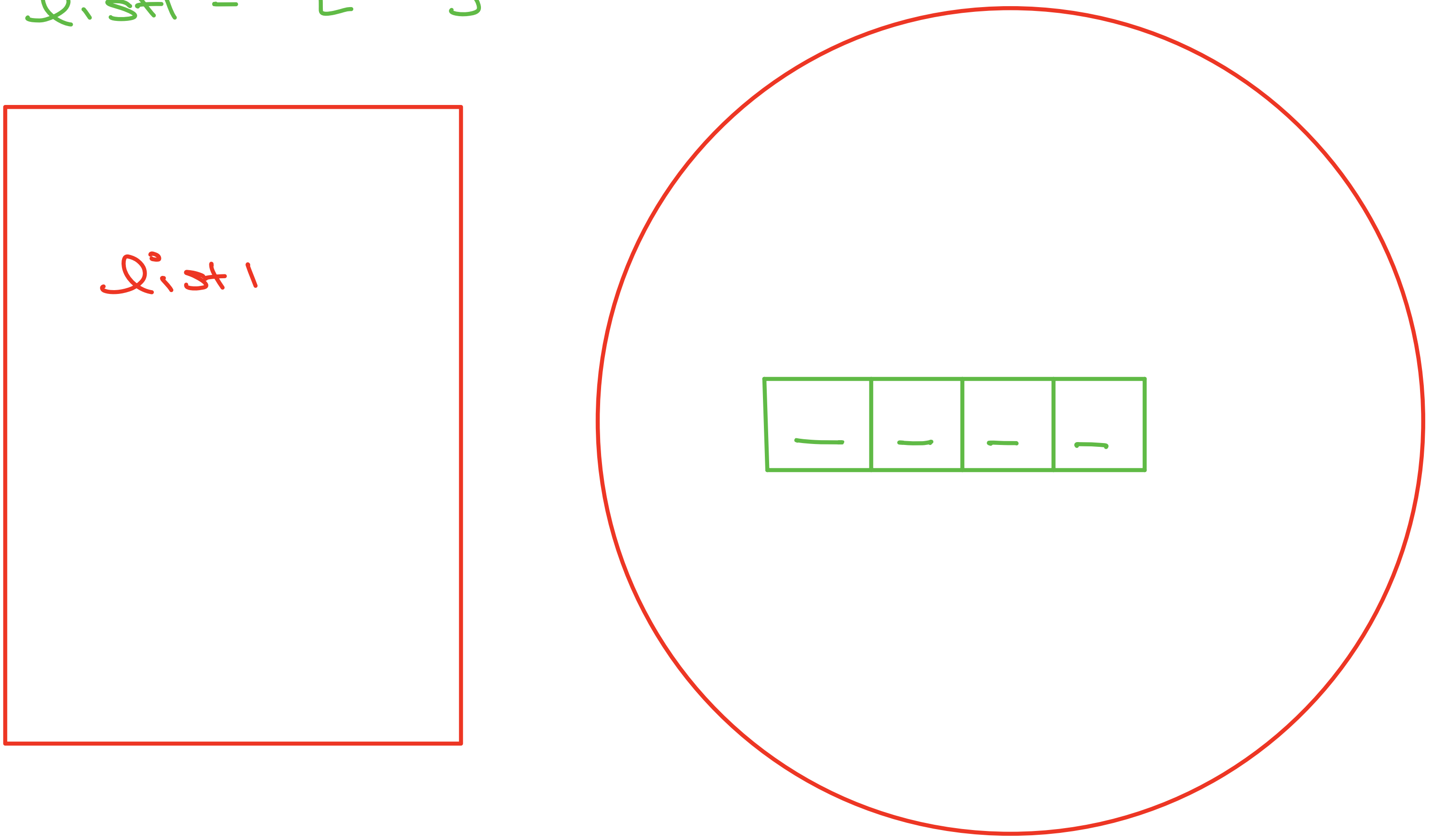
1. Key : Value pairs
2. Mutable
3. Indexing in case of dictionary is done using 'Key'
4. All the keys must be immutable while value can be either mutable or immutable
5. key will always be Unique

1. Functions
2. Sets
3. Comprehension
4. String

Pending

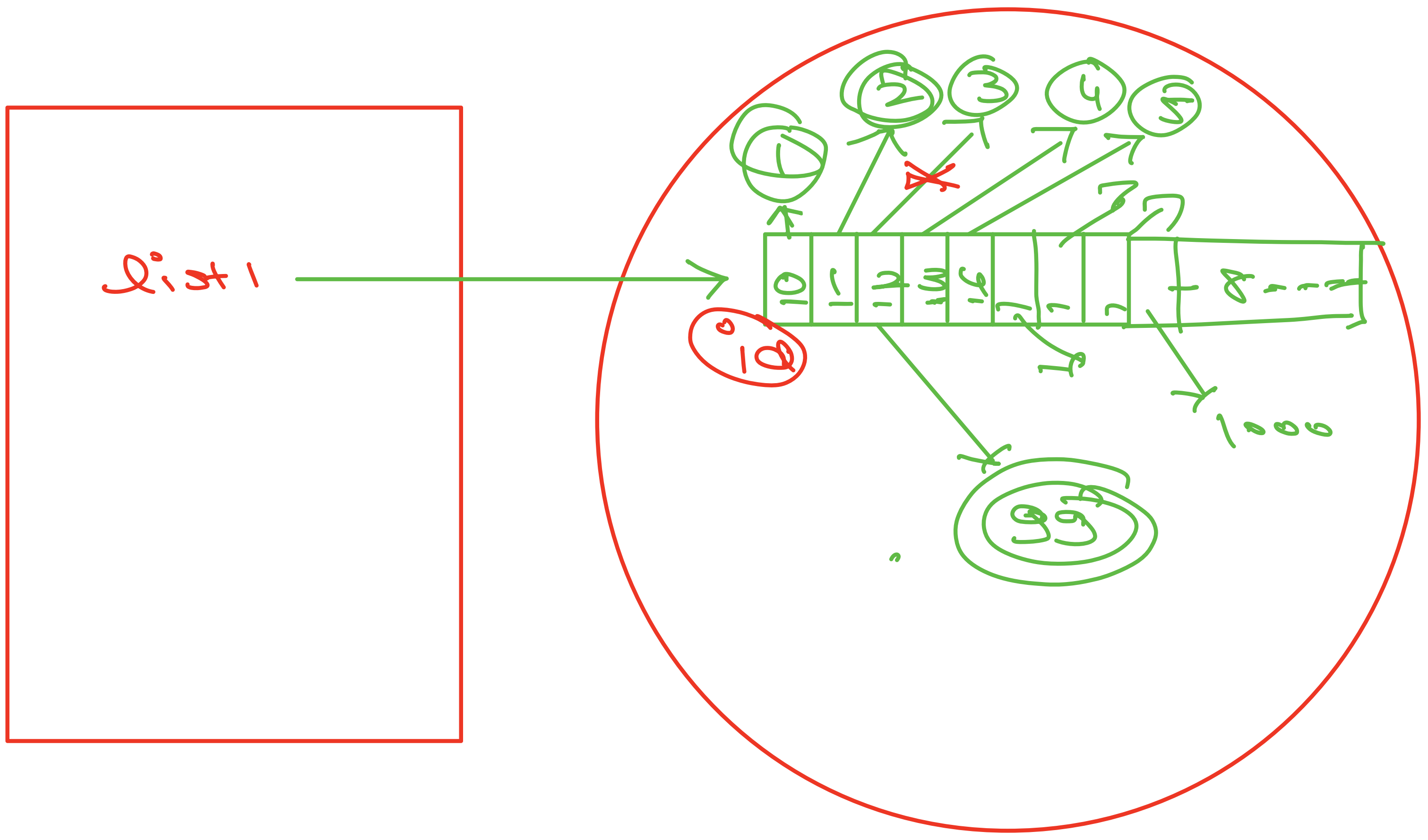
Memory Allocation of list

list1 = [ ]



4, 8, 16, 32, 44 - - - - -

① list1 = [1, 2, 3, 4, 5] → 8 blocks



list1 [2] = 99

list2.append(99) ... (100)(200)

8 slots are filled

list2. append(1000)