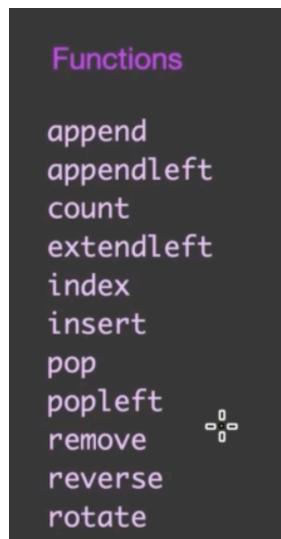# Data Structure : deque

- deque means **double ended queue** I.e, operations can be performed from both sides of the queue

- It can be used as a **queue** as well as a **stack**

- Queue follows FIFO order , stack follows LIFO order

- Methods available in queue are

```
Functions

append
appendleft
count
extendleft
index
insert
pop
popleft
remove
reverse
rotate
```

- Lets see this with an example

```
>>>
>>> from collections import deque
>>>
>>> L = [1,2,3,4,5]
>>> q = deque(L)
>>> q
deque([1, 2, 3, 4, 5])
>>> q.append(6)
>>> q
deque([1, 2, 3, 4, 5, 6])
>>> q.appendleft(7)
>>> q
deque([7, 1, 2, 3, 4, 5, 6])
>>> q.pop()
6
>>> q.popleft()
7
>>> q.extend([10,20,30])
>>> q
deque([1, 2, 3, 4, 5, 10, 20, 30])
>>> q.extendleft([11,22,33,44])
>>> q
deque([44, 33, 22, 11, 1, 2, 3, 4, 5, 10, 20, 30])
>>> q.rotate(2)
>>> q
deque([20, 30, 44, 33, 22, 11, 1, 2, 3, 4, 5, 10])
>>>
```