

21.Difference between reverse and reversed?

ANS. reverse() actually reverses the elements in the container. reversed() doesn't actually reverse anything,

```
lt = [1,2,3,4,5,6,7,8]
new = list(reversed(lt))
print(new)
```

```
lt.reverse()
print(lt)
```

```
↳ [8, 7, 6, 5, 4, 3, 2, 1]
   [8, 7, 6, 5, 4, 3, 2, 1]
```

22.Difference between copy and deep copy?

ANS. copy()- constructs a new compound object and any changes made to a copy of object do reflect in the original object.

deepcopy() - constructs a new compound object and any changes made to a copy of object do not reflect in the original object.

```
import copy
a_list = [[1,1,1], [2,2,2], [3,3,3]]
b_list = [[1,1,1], [2,2,2], [3,3,3]]
c_list = copy.copy(a_list)
d_list = copy.deepcopy(b_list)
```

```
a_list[0][0] = 'AA'
b_list[0][0] = 'BB'
print('Actual list', a_list)
print('Copy List', c_list)
print('DeepCopy List', d_list)
```

```
Actual list [['AA', 1, 1], [2, 2, 2], [3, 3, 3]]
Copy List [['AA', 1, 1], [2, 2, 2], [3, 3, 3]]
DeepCopy List [[1, 1, 1], [2, 2, 2], [3, 3, 3]]
```

23.How to remove duplicate elements in the list?

ANS.using set() function

```
test_list = [1, 5, 3, 6, 3, 5, 6, 1]
print ("The original list is : " + str(test_list))
test_list = list(set(test_list))
```

```
print ("The list after removing duplicates : " + str(test_list))
```

```
The original list is : [1, 5, 3, 6, 3, 5, 6, 1]
```

```
-----
TypeError                                Traceback (most recent call last)
<ipython-input-55-e5e18ac5db31> in <module>()
      1 test_list = [1, 5, 3, 6, 3, 5, 6, 1]
      2 print ("The original list is : " + str(test_list))
----> 3 test_list = list(set(test_list))
      4
      5 print ("The list after removing duplicates : " + str(test_list))
```

```
TypeError: 'list' object is not callable
```

SEARCH STACK OVERFLOW

30.)How to apply a function to all items in the list?

ANS. Using map() function

```
def addition(n):
    return n + n

# We double all numbers using map()
numbers = (1, 2, 3, 4)
result = map(addition, numbers)
print(list(result))

[2, 4, 6, 8]
```

31.)How to filter the elements based on a function in a python list?

ANS.

```
lst = [1,2,3,4]
new = list(filter(lambda x: x>2,lst))
print(lst)
print(new)

[1, 2, 3, 4]
[3, 4]
```

32.)How python lists are stored in memory

ANS. The List Object consists of two internal parts one for object header and one separately allocated array of object references.

