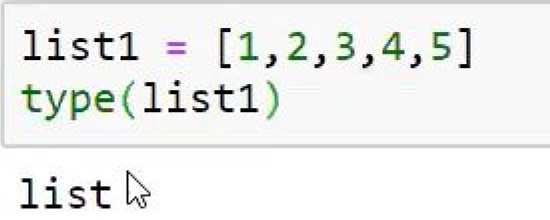
Date : 2nd - 09 - 2020
Morning Session : 9am – 11.00 PM
By ~ Rohan Kumar

Topics: Python List and Tuples

List : The list is a most versatile data type available in Python which can be written as a list of comma-separated values (items) between square brackets [1,2,3,4,”hello”] Important thing about a list is that items, in a list need not be of the same type.

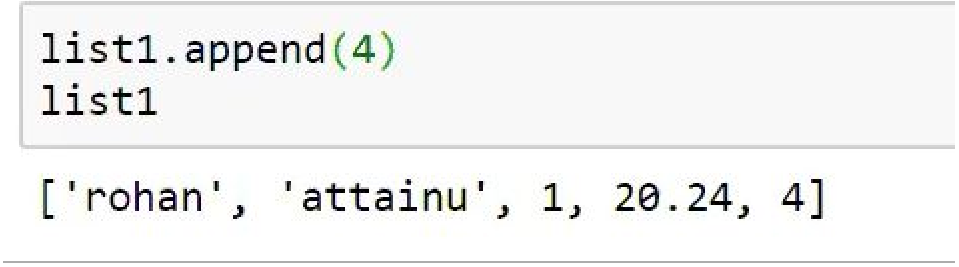


```
list1 = [1,2,3,4,5]
type(list1)
```

```
list
```

Similar to string indices, list indices start at 0, and lists can be sliced, concatenated and so on.

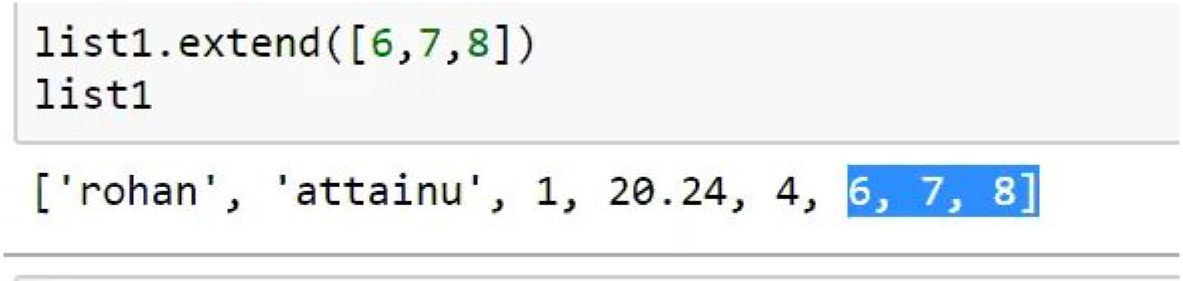
Append: appending to last (one item at a time)



```
list1.append(4)
list1
```

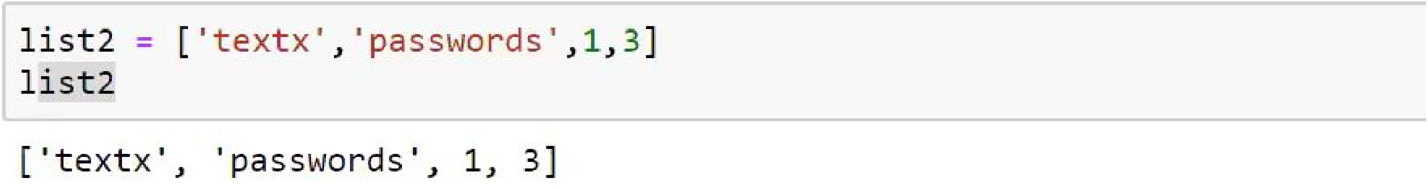
```
['rohan', 'attainu', 1, 20.24, 4]
```

Extend = extend the list to last (many items at a time)



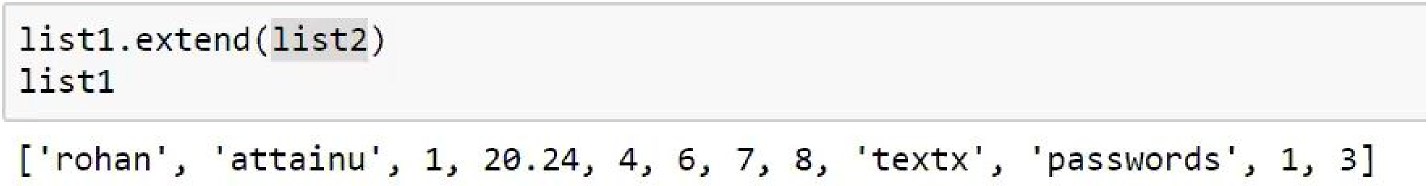
```
list1.extend([6,7,8])
list1
```

```
['rohan', 'attainu', 1, 20.24, 4, 6, 7, 8]
```



```
list2 = ['textx','passwords',1,3]
list2
```

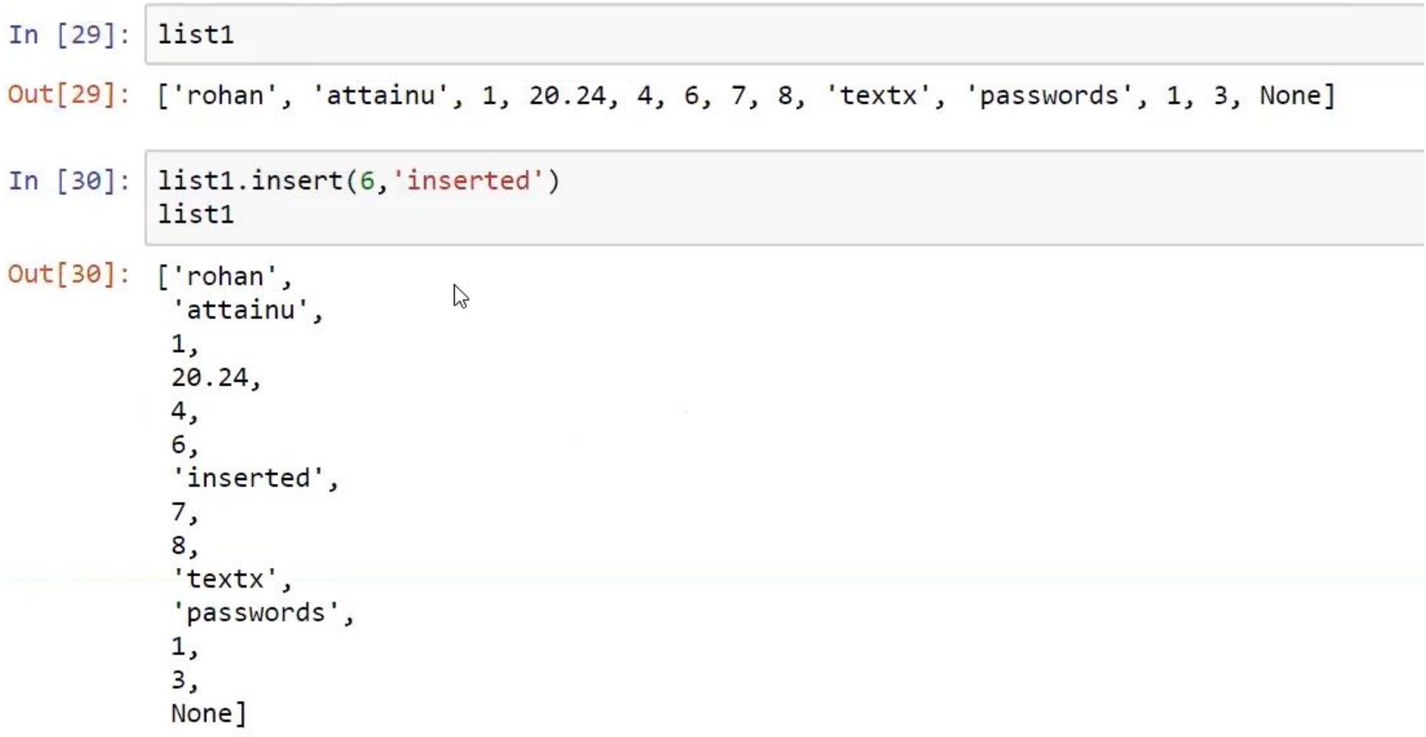
```
['textx', 'passwords', 1, 3]
```



```
list1.extend(list2)
list1
```

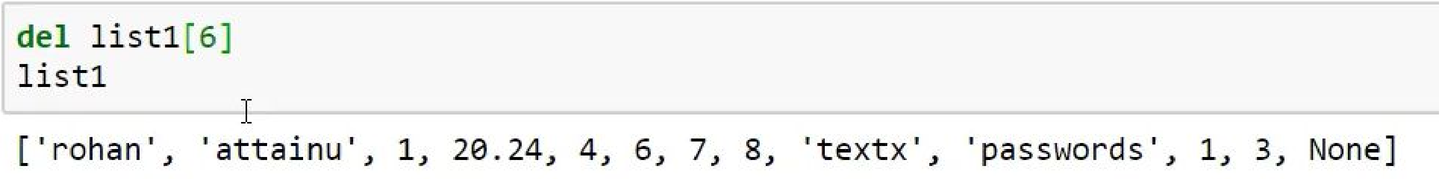
```
['rohan', 'attainu', 1, 20.24, 4, 6, 7, 8, 'textx', 'passwords', 1, 3]
```

Insert: Inserts object obj into list at offset index



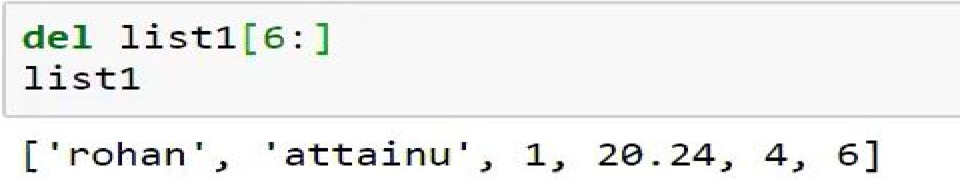
```
In [29]: list1

Out[29]: ['rohan', 'attainu', 1, 20.24, 4, 6, 7, 8, 'textx', 'passwords', 1, 3, None]

In [30]: list1.insert(6,'inserted')
         list1

Out[30]: ['rohan',
          'attainu',
          1,
          20.24,
          4,
          6,
          'inserted',
          7,
          8,
          'textx',
          'passwords',
          1,
          3,
          None]
```

Delete: delete object obj from list (many items at a time)



```
del list1[6]
list1
```

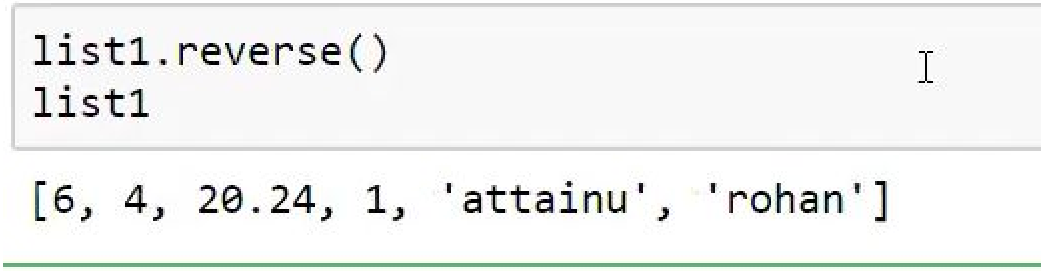
```
['rohan', 'attainu', 1, 20.24, 4, 6, 7, 8, 'textx', 'passwords', 1, 3, None]
```



```
del list1[6:]
list1
```

```
['rohan', 'attainu', 1, 20.24, 4, 6]
```

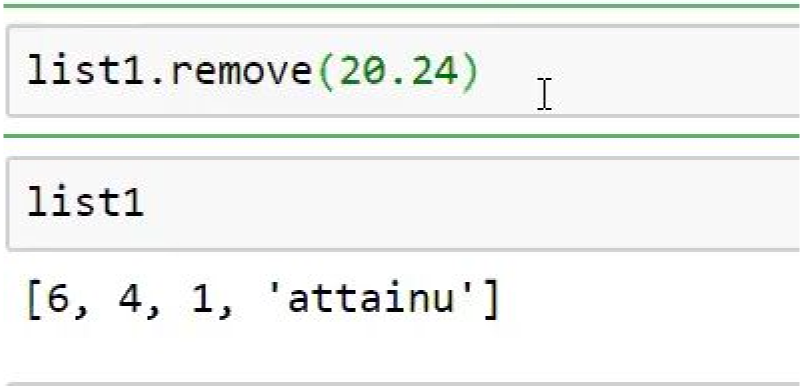
Reverse: Reverses objects of list in place



```
list1.reverse()
list1
```

```
[6, 4, 20.24, 1, 'attainu', 'rohan']
```

Remove: Removes object obj from list (one item at a time)

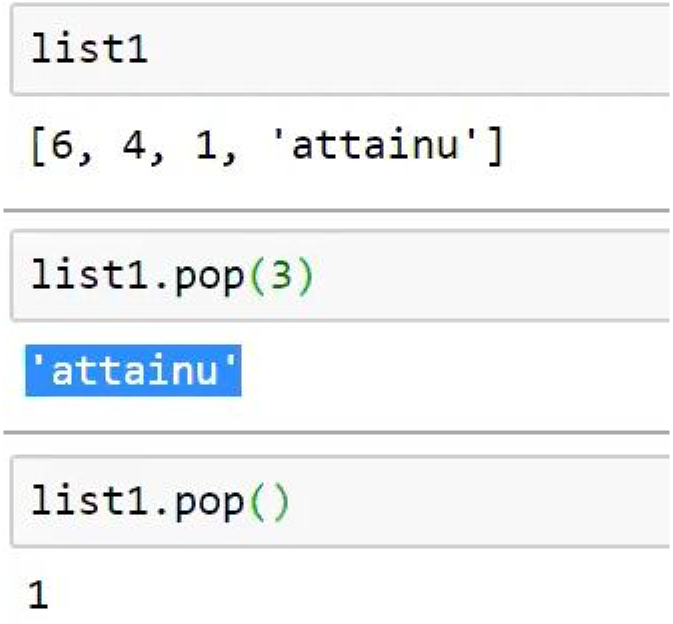


```
list1.remove(20.24)
```

```
list1
```

```
[6, 4, 1, 'attainu']
```

POP : Removes and returns last object or obj from list



```
list1
```

```
[6, 4, 1, 'attainu']
```

```
list1.pop(3)
```

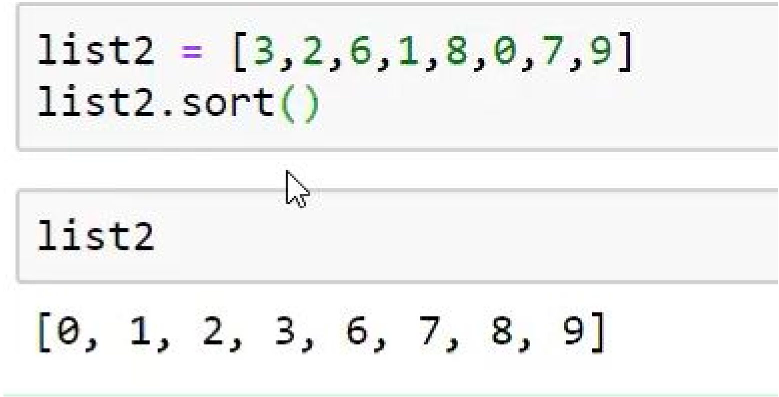
```
'attainu'
```

```
list1.pop()
```

```
1
```

List Are Mutable.

Sort: Sorts objects of list,



```
list2 = [3,2,6,1,8,0,7,9]
list2.sort()
```

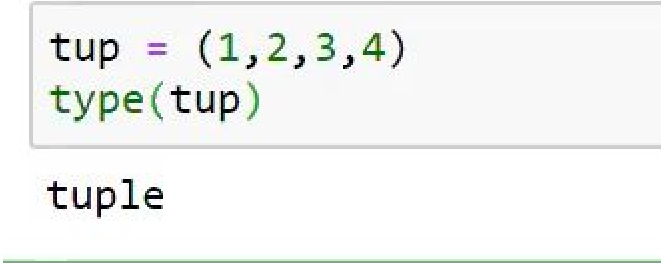
```
list2
```

```
[0, 1, 2, 3, 6, 7, 8, 9]
```

List support many functions to check the directory

Syntax: Dir (list1)

Tuple: somewhat similar to list it contains items (similar, different) but we can declare with small brackets ().



```
tup = (1,2,3,4)
type(tup)
```

```
tuple
```

Operations supported by tuple.

Count , index.

Tuples are immutable which means you cannot update or change the values of tuple elements

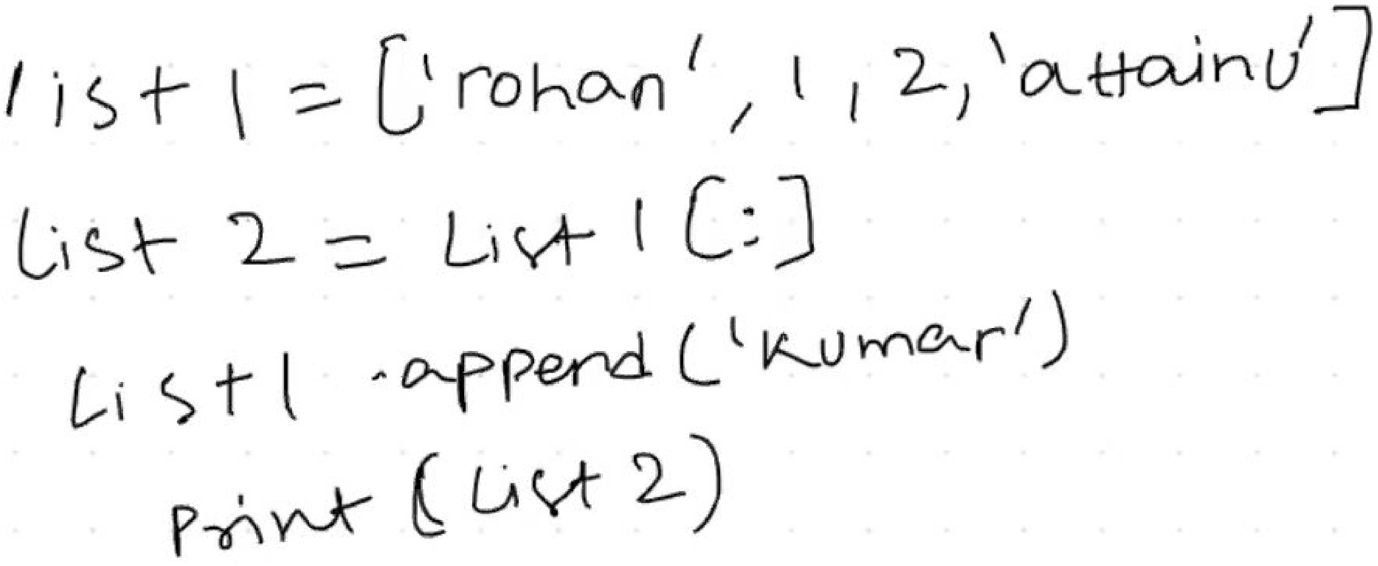
We can not delete tuple items but we can delete tuple.

Difference b/w list and tuple

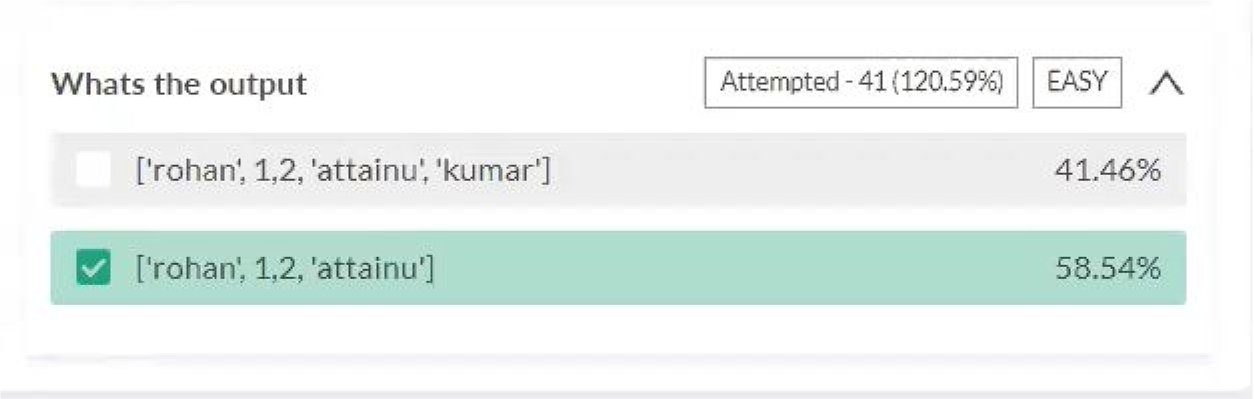
1) List mutable, tuple immutable
2) Syntax : [] list, () tuple
3) List as variable length, tuple as fixed length
4) dir(): list supports more functions than tuple

MCQ’s:

MCQ 1:



```
list1=['rohan',1,2,'attainu']
List 2 = List1[:]
 List1 .append('kumar')
  Print (List 2)
```



Whats the output

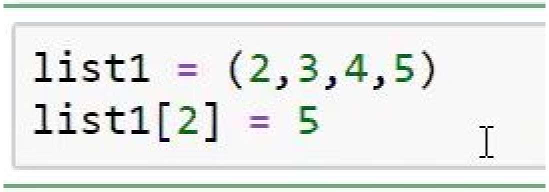
Attempted - 41 (120.59%)

EASY

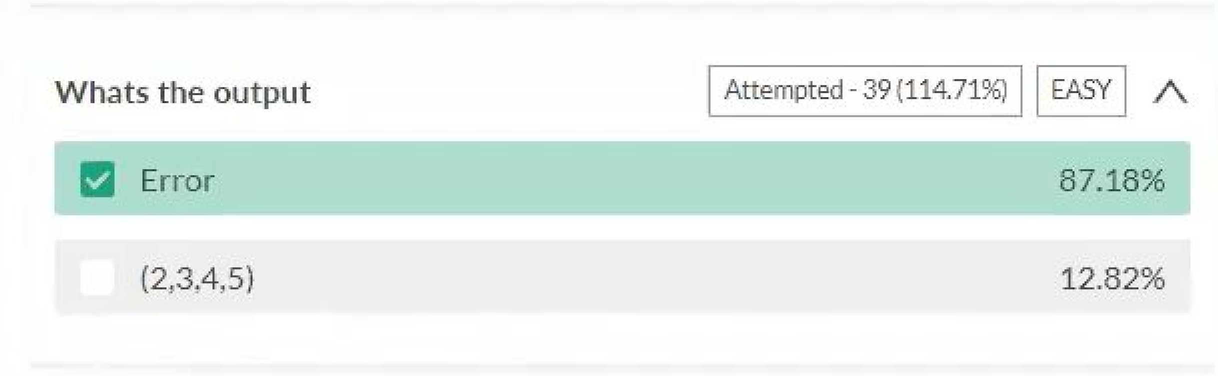
□ ['rohan', 1,2, 'attainu', 'kumar'] 41.46%

☑ ['rohan', 1,2, 'attainu'] 58.54%

MCQ2:



```
list1 = (2,3,4,5)
list1[2] = 5
```



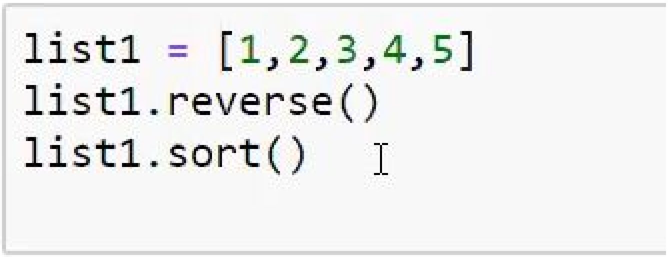
Whats the output

Attempted - 39 (114.71%) EASY

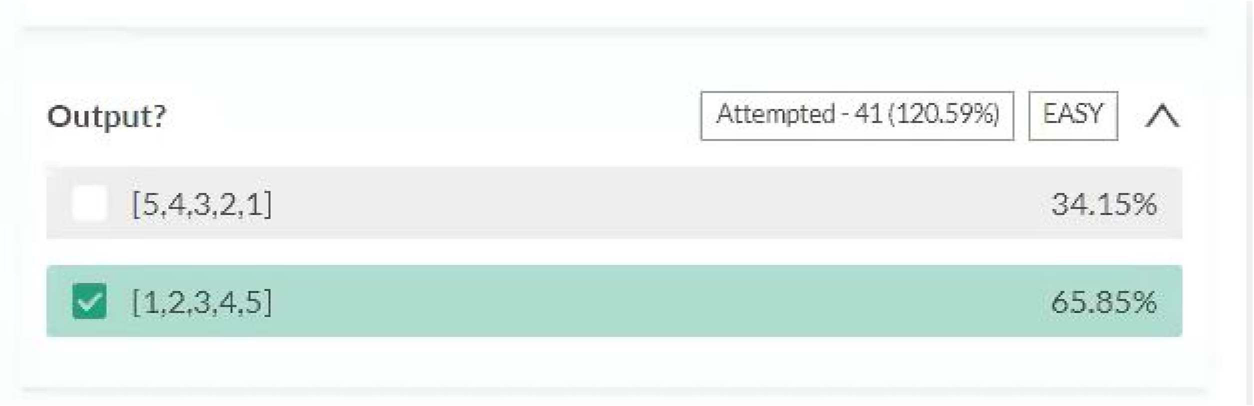
☑ Error 87.18%

□ (2,3,4,5) 12.82%

MCQ3:



```
list1 = [1,2,3,4,5]
list1.reverse()
list1.sort()
```



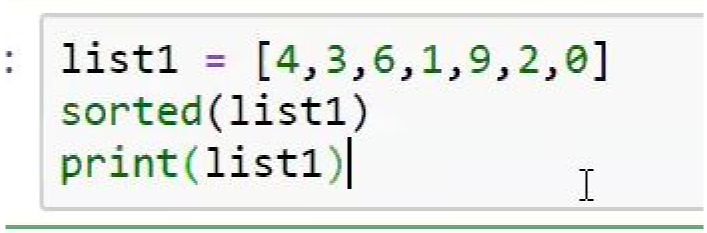
Output?

Attempted - 41 (120.59%) EASY

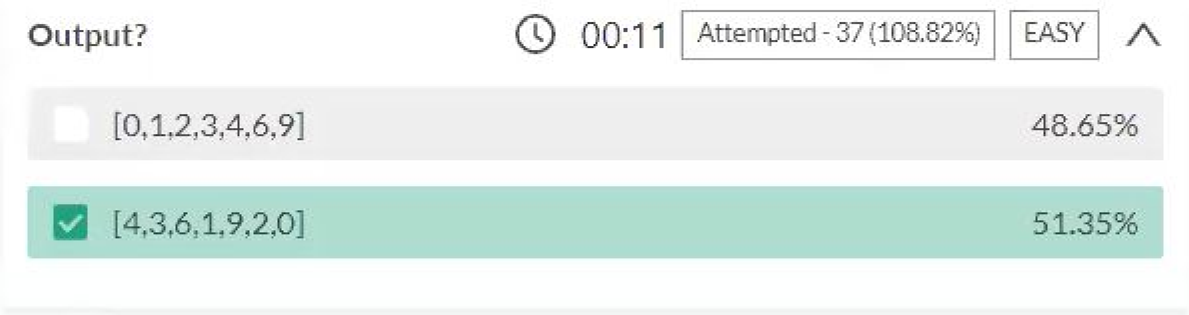
□ [5,4,3,2,1] 34.15%

☑ [1,2,3,4,5] 65.85%

MCQ4:



```
list1 = [4,3,6,1,9,2,0]
sorted(list1)
print(list1)
```



Output?

00:11 Attempted - 37 (108.82%) EASY

□ [0,1,2,3,4,6,9] 48.65%

☑ [4,3,6,1,9,2,0] 51.35%