```python
#Reverse a list in Python
a=[1,2,3,4,5,6]
a.reverse()         #direcr reverse function
a
```

```
[6, 5, 4, 3, 2, 1]
```

```python
#Reverse a list in Python
a
a=a[::-1] #by slicing method
print(a)
```

```
[1, 2, 3, 4, 5, 6]
```

```python
 #Concatenate two lists index-wise

list1 = ["M", "na", "i", "Ke"]
list2 = ["y", "me", "s", "lly"]
list3 = [i + j for i, j in zip(list1, list2)]
print(list3)
```

```
['My', 'name', 'is', 'Kelly']
```

```python
list1=["1","2","3","4"]
list2=["5","6","7","8"]
list3=[i+j for i,j in zip(list1,list2)]
print(list3)
```

```
['15', '26', '37', '48']
```

```python
#Turn every item of a list into its square
numbers = [1, 2, 3, 4, 5, 6, 7]
# result list
a = []
for i in numbers:
    # calculate square and add to the result list
    a.append(i * i)
print(a)
```

```
[1, 4, 9, 16, 25, 36, 49]
```

```python
#Concatenate two lists in the following order
list1 = ["Hello ", "take "]
list2 = ["Dear", "Sir"]
#a=[i+j for i,j in zip(list1,list2)]    index wise only use zip
a = [x + y for x in list1 for y in list2]   #concatenate one to all use
print(a)
```

```
['Hello Dear', 'Hello Sir', 'take Dear', 'take Sir']
```

```python
#Iterate both lists simultaneously


list1 = [10, 20, 30, 40]
list2 = [100, 200, 300, 400]
for x, y in zip(list1, list2[::-1]):
    print(x, y)
```

```
10 400
20 300
30 200
40 100
```

```python
#Add new item to list after a specified item
list1 = [10, 20, [300, 400, [5000, 6000], 500], 30, 40]
list1[2][2].append(7000)
print(list1)
```

```
[10, 20, [300, 400, [5000, 6000, 7000], 500], 30, 40]
```

```python
#Extend nested list by adding the sublist
list1 = ["a", "b", ["c", ["d", "e", ["f", "g"], "k"], "l"], "m", "n"]
sub_list = ["h", "i", "j"]

# understand indexing
# list1[2] = ['c', ['d', 'e', ['f', 'g'], 'k'], 'l']
# list1[2][1] = ['d', 'e', ['f', 'g'], 'k']
# list1[2][1][2] = ['f', 'g']

# solution
list1[2][1][2].extend(sub_list)
print(list1)
```

```
['a', 'b', ['c', ['d', 'e', ['f', 'g', 'h', 'i', 'j'], 'k'], 'l'], 'm', 'n']
```

```python
#Replace list's item with new value if found
list1 = [5, 10, 15, 20, 25, 50, 20]

# get the first occurrence index
index = list1.index(15)

# update item present at location
list1[index] = 200
print(list1)
```

```
[5, 10, 200, 20, 25, 50, 20]
```

```python
 #Remove all occurrences of a specific item from a list.
list1 = [5, 20, 15, 20, 25, 50, 20]
```

```
# list comprehension
# remove specific items and return a new list
def remove_value(sample_list, val):
    return [i for i in sample_list if i != val]

res = remove_value(list1, 20)
print(res)
```

```
[5, 15, 25, 50]
```

```
list1=[5,5,4,7,8,8,2,2,1]
def remove_value(sample_list,val):
    return [i for i in sample_list if i !=val]
a=remove_value(list1,2)
a1=remove_value(list1,5)
a2=remove_value(list1,8)
print(a)
print(a1)
print(a2)
```

```
[5, 5, 4, 7, 8, 8, 1]
[4, 7, 8, 8, 2, 2, 1]
[5, 5, 4, 7, 2, 2, 1]
```

```
count=0
line=input("Enter a line to test:")
line=line.lower()
for element in line:
    if element=='a' or element=='e' or element=='i' or element=='o' or element=='u':
        count+=1
print("Total vowels are:",count)
```

```
Enter a line to test:hdjuuiqj
Total vowels are: 3
```

```
def is_group_member(group_data, n):
 for i in group_data:
   if n == i:
     return True
 return False
print(is_group_member([1, 5, 8, 3], 3))
print(is_group_member([5, 8, 3], -1))
```

```
True
False
```

```
def test_numbers(x, y):
 if x == y or abs(x-y) == 5 or (x+y) == 5:
   print('TRUE')

 else:
   print('False')
test_numbers(7, 2)
test_numbers(3, 5)
```

```
TRUE
False
```

```

```