asssignment-on-list

Use the "Run" button to execute the code.

```
!pip install jovian --upgrade --quiet
```

```
import jovian
```

```
# Execute this to save new versions of the notebook
jovian.commit(project="asssignment-on-list")
```

Exercise Question 1: Given a two list. Create a third list by picking an odd-index element from the first list and even index elements from the second.

```

```

```
l1 = [3, 6, 9, 12, 15, 18, 21]
l2 = [4, 8, 12, 16, 20, 24, 28]
print("Elements at odd index position form l1 are:",l1[1::2])
print()
print("Elements at even index position form l1 are:",l2[0::2])
l3=[]
l3.extend(l1[1::2])
l3.extend(l2[0::2])
print()
print("The third and final list is ",l3)
```

Q2.Given a number count the total number of digits in a number.

Method 1

```
n=(input("enter a number:"))
print(len(n))
```

```
enter a number:123456
6
```

Method2

```
n=int(input("enter a number:"))
x = [int(a) for a in str(n)]
print(x)
print("The count of digits in",n,"are:",len(x))
```

```
enter a number:123456
[1, 2, 3, 4, 5, 6]
```

```
The count of digits in 123456 are: 6
```

Q3:Write a Python program to print the numbers of a specified list after removing even numbers from it.

```
l1 = [3, 6, 9, 12]
for i in l1:
    if i%2==0:
        l1.remove(i)
print(l1)
```

```
[3, 9]
```

Q4. Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).

```
l = list()
for i in range(1,31):
    l.append(i**2)
l.append()
print("The list with squares of first five numbers is ",l[:5])
print("The list with squares of last five numbers is ",l[-5:])
```

```
The list with squares of first five numbers is  [1, 4, 9, 16, 25]
The list with squares of last five numbers is  [676, 729, 784, 841, 900]
```

Q5.Write a Python program to generate all permutations of a list in Python.

```
def perm(a, k=0):
    if k == len(a):
        print (a)
    else:
        for i in range(k, len(a)):
            a[k], a[i] = a[i] ,a[k]
            perm(a, k+1)
            a[k], a[i] = a[i], a[k]
perm([1,2,3])
```

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

Q6.Write a python program to check whether two lists are circularly identical.

```
l1=[1,2,3,4,5,6]
l2=[1,2,3,4,5,7]
if len(l1)==len(l2):
    for i in range ((len(l1))):
        a=l1[i]
        b=l2[i]
        if a==b:
            count=0
        else:
            print("l1 and l2 are not identical")
            break
else:
    print("l1 and l2 are not identical")
```

```
l1 and l2 are not identical
```

Q7. Write a Python program to change the position of every n-th value with the (n+1)th in a list.

```
l=[0,1,2,3,4,5]
for i in range(len(l)):
    if i % 2 ==0:
        l[i] ,l[i+1]=l[i+1] ,l[i]
print(l)
```

```
[1, 0, 3, 2, 5, 4]
```

Q8. Write a Python program to iterate over two lists simultaneously.

```
a=[1,2,3,4,5,6]
b=[6,5,4,3]
print("The combined elemnts after iteratint simultaneously are:",end=" ")
for i in a+b:
    #print("The combined elemnts are :")
    print(i,end=" ")
```

```
The combined elemnts after iteratint simultaneously are: 1 2 3 4 5 6 6 5 4 3
```

Q9.Write a Python program to generate the combinations of n distinct objects taken from the elements of a given list. Original list: [1, 2, 3, 4, 5, 6, 7, 8, 9] Combinations of 2 distinct objects: [1, 2] [1, 3] [1, 4] [1, 5] .... [7, 8] [7, 9] [8, 9]

```
l=[1, 2, 3, 4, 5, 6, 7, 8, 9]
for i in range (len(l)):
    count=0
    #print(l[i],l[j])
    #print(l[i])
```

```
    for j in range(i+1):
            print(l[i],l[j+1])
```

```
1 2
2 2
2 3
3 2
3 3
3 4
4 2
4 3
4 4
4 5
5 2
5 3
5 4
5 5
5 6
6 2
6 3
6 4
6 5
6 6
6 7
7 2
7 3
7 4
7 5
7 6
7 7
7 8
8 2
8 3
8 4
8 5
8 6
8 7
8 8
8 9
9 2
9 3
9 4
9 5
9 6
```

```
9 7
9 8
9 9
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
/tmp/ipykernel_271/1509056556.py in <module>
      5     #print(l[i])
      6     for j in range(i+1):
----> 7             print(l[i],l[j+1])

IndexError: list index out of range
```

Q10.Write a Python program to remove duplicates from a list of lists.

```
s=[[10, 20], [40], [30, 56, 25], [10, 20], [33], [40]]
new_list = []
for i in s:
    if i not in new_list:
        new_list.append(i)
s = new_list
print ("The list after removal of list is :",s)
```

```
The list after removal of list is : [[10, 20], [40], [30, 56, 25], [33]]
```