assignment-1-python

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="assignment-1-python")
```

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.

```
One = [3, 6, 9, 12, 15, 18, 21]
Two = [4, 8, 12, 16, 20, 24, 28]
list3=[]
for i in range(len(One)):
    if i%2 != 0:
        list3.append(One[i])
for j in range(len(Two)):
    if j%2 == 0 :
        list3.append(Two[j])
print(list3)
```

```
[6, 12, 18, 4, 12, 20, 28]
```

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

```
c=0
n=int(input('enter number'))
m=n
while n>0:
    n//=10
    c+=1
print('number have',c,'digits in',m)
```

```
enter number678
number have 3 digits in 678
```

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

```python
t = [4, 8,1, 12, 16, 20, 24, 28, 9,11,13]
u=[]
i=0
for i in t:
    if i%2 != 0:
        u.append(i)
print('list after removing even numbers from it is',u)
```

```
list after removing even numbers from it is [1, 9, 11, 13]
```

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).

```python
a=[]
for i in range (1,6):
    s=i**2
    a.append(s)
for j in range (26,31):
    h=j**2
    a.append(h)
print(a)
```

```
[1, 4, 9, 16, 25, 676, 729, 784, 841, 900]
```

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

```python
a=[1,2,3]
b=[]
print('following are the permutations of list: ')
for i in a:
    for j in a:
        for k in a:
            if i!=j and j!=k and k!=i:
                b=[]
                b.append(i)
                b.append(j)
                b.append(k)
                print(b)
```

```
following are the permutations of list:
[1, 2, 3]
[1, 3, 2]
[2, 1, 3]
[2, 3, 1]
[3, 1, 2]
[3, 2, 1]
```

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

```python
a=[1,1,0,0]
b=[0,0,1,1]
e=0
while True:
    c=a[0]
    a.pop(0)
    a.append(c)
    #print(a)
    d=len(b)
    e+=1
    if a==b:
        print(a,'and',b,'are identical list')
        break

    if e==d:
        print(a,'and',b,'are not identical list')
        break
```

```
[0, 0, 1, 1] and [0, 0, 1, 1] are identical list
```

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

```python
a=[0,1,2,3,4,5]
for i in range(0,len(a),2):
    a[i],a[i+1]=a[i+1],a[i]
print('position of value after change ',a)
```

```
position of value after change  [1, 0, 3, 2, 5, 4]
```

Write a Python program to iterate over two lists simultaneously.

```python
a=[1,2,3]
b=['a','b','c']
print('lists are :')
for i in range(len(a)):
    for j in range(len(b)):
        if i==j:
            print(a[i],b[j])
```

```
lists are :

1 a

2 b

3 c
```

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]

```python
a=[1,2,3,4,5,6,7,8,9]
b=[]
c=[]
for i in a:
#type([i])
    for j in a:
        if i!=j :
            b=[i]
            b.append(j)
            c.append(b)
print('combinations of n distinct objects are:')
print(c)
```

```
combinations of n distinct objects are:
[[1, 2], [1, 3], [1, 4], [1, 5], [1, 6], [1, 7], [1, 8], [1, 9], [2, 1], [2, 3], [2,
4], [2, 5], [2, 6], [2, 7], [2, 8], [2, 9], [3, 1], [3, 2], [3, 4], [3, 5], [3, 6], [3,
7], [3, 8], [3, 9], [4, 1], [4, 2], [4, 3], [4, 5], [4, 6], [4, 7], [4, 8], [4, 9], [5,
1], [5, 2], [5, 3], [5, 4], [5, 6], [5, 7], [5, 8], [5, 9], [6, 1], [6, 2], [6, 3], [6,
4], [6, 5], [6, 7], [6, 8], [6, 9], [7, 1], [7, 2], [7, 3], [7, 4], [7, 5], [7, 6], [7,
8], [7, 9], [8, 1], [8, 2], [8, 3], [8, 4], [8, 5], [8, 6], [8, 7], [8, 9], [9, 1], [9,
2], [9, 3], [9, 4], [9, 5], [9, 6], [9, 7], [9, 8]]
```

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

```python
a= [[10, 20], [40], [30, 56, 25], [10, 20], [33],[40]]
b=[]
for i in a:
    if i not in b:
        b.append(i)
print("list without duplicates is",b)
```

list without duplicates is [[10, 20], [40], [30, 56, 25], [33]]