py-assig-1

Use the "Run" button to execute the code.

Question1:

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.

```
listOne = [3, 6, 9, 12, 15, 18, 21]
listTwo = [4, 8, 12, 16, 20, 24, 28]
list_out=[]
odd=[]
even=[]
for i in range(0,len(listOne)):
    if i%2!=0:
        odd.append(listOne[i])
        list_out.append(listOne[i])
for i in range(0,len(listTwo)):
    if i%2==0:
        even.append(listTwo[i])
        list_out.append(listTwo[i])

print("Element at odd-index positions from list one")
print(odd)
print("Element at even-index positions from list one")
print(even)
print("Printing Final third list")
print(list_out)
```

```
Element at odd-index positions from list one
[6, 12, 18]
Element at even-index positions from list one
[4, 12, 20, 28]
Printing Final third list
[6, 12, 18, 4, 12, 20, 28]
```

Question 2:

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

```
count=0
num=int(input("Enter the Number"))
if num==0:
    print("Invalid")
while num>0:
```

```
    x=num%10
    num=num//10
    count=count+1
print("total number of digits in a number :",count)
```

```
Enter the Number12345
total number of digits in a number : 5
```

Question 3:

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

```
list=[]
while True:
    num=input("Enter the number : ")
    if num=="":
            break
    if num.isdigit() :
        if int(num)%2==0:
            continue
        else:
            list.append(int(num))
    else:
        print("Please Enter Only Numbers")
print(list)
```

```
Enter the number : 22
Enter the number : 34
Enter the number : 53
Enter the number : 64
Enter the number : 24
Enter the number : 64
Enter the number : 77
Enter the number : 87
Enter the number : 53
Enter the number :
[53, 77, 87, 53]
```

Question 4:

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).

```
no=1
a = []
while no<31:
    b=no**2
    a.append(b)
```

```
    no+=1
print(a)
c=int(input("Enter the value of how many elements of starting to be printed"))
b = a[0:c:1]
print("Your first",c,"elements are",b)
d=int(input("Enter the value of how many elements of end to be printed "))
e = a[-d::]
print("Your last",d,"elements are",e)
```

```
[1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361,
400, 441, 484, 529, 576, 625, 676, 729, 784, 841, 900]
```

Question 5:

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

```
list1=[1,2,3]
print("original list: ",list1)
list2=[]
for i in list1:
    for j in list1:
         for k in list1:
                list2.append([i] + [j] + [k])
print("All possible permutation: ",list2)
```

```
original list:  [1, 2, 3]
All possible permutation:  [[1, 1, 1], [1, 1, 2], [1, 1, 3], [1, 2, 1], [1, 2, 2], [1,
2, 3], [1, 3, 1], [1, 3, 2], [1, 3, 3], [2, 1, 1], [2, 1, 2], [2, 1, 3], [2, 2, 1], [2,
2, 2], [2, 2, 3], [2, 3, 1], [2, 3, 2], [2, 3, 3], [3, 1, 1], [3, 1, 2], [3, 1, 3], [3,
2, 1], [3, 2, 2], [3, 2, 3], [3, 3, 1], [3, 3, 2], [3, 3, 3]]
```

Question 6:

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

```
a = [1,2,3,4,5]
b = [5,4,3,2,1]
d = set(a)
e = set(b)
if d==e :
  print("yes circularly equal")
else :
  print("circularly not equal")
```

```
yes circularly equal
```

Question 7:

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

```
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(a)
```

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

Question 8:

Write a Python program to iterate over two lists simultaneously.

```
a = [1,2,3,4,5]
b = [6,7,8,9,10]
c = []
j=0
for i in a:
    c.append(i)
    c.append(b[j])
    j+=1
print(c)
```

```
[1, 6, 2, 7, 3, 8, 4, 9, 5, 10]
```

Question 9:

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

```
a=[1,2,3,4,5,6,7,8,9]
c=[]
for i in a:
  for j in a:
    b=[]
    if (i == j):
      pass
    elif i != j:
      b.append(i)
      b.append(j)
      c.append(b)
print("Combination of distinct elements are: ",c)
```

```
Combination of distinct elements 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]]
```

Question 10:

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

```
a=[[10,20],[40],[30,56,25],[10,20],[33]]
b=[]
for i in a:
    if i not in b:
        b.append(i)

print(b)
```

```
[[10, 20], [40], [30, 56, 25], [33]]
```

```

```