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① Modify the following program with walrus operator

Hint :- call index() method only once ..

```
a = [10, 20, 15, 12, 14, 15, 18, 19, 15, 12, 25]

Try:
    i = -1
    while (i := a.index(15, i+1)):
        print(i)
except ValueError:
    print(f'15 is found {a.count(15)} times')
```

② Most tricky program

Write a program to determine first list is a sublist of 2nd list or not Print True if it is a sublist and False otherwise.

```
def is_sublist(first, second):
    pos = -1
    for item in first:
        try
            pos = second.index(item, pos+1)
        except ValueError:
            return False
    return True
```

③ copy() method

```
a=[10,20,15,18]          # [10,20,15,18]
b=a.copy()               # copy using copy()
print(b)                 # [10,20,15,18]
print(a is b)            # False (different object in memory
print(a==b)              # True (same values
c=a[:]                   # copy using slicing
print(c)                 # [10,20,15,18]
print(a is c)            # False
print(a==c)              # True
d=a                      # assignment, not copy
print(d)                 # [10,20,15,18]
print(a is d)            # True (both refers to SAME list)
print(a==d)              # True (values also same)
```

④ Tricky program

Write a program to determine mode

```
a=[12,20,18,15,10,15,10,15,20,18,15,10,20,15,10]
mode=None
ctr=0
for x in set(a):
    freq=a.count(x)
    if freq>ctr:
        ctr=freq
        mode=x
print("mode=",mode)
print("count=",ctr)
```

5) Nested list demo program

```
a=[[10,20,30,40],[50,60,70,80],[90,100,110,120]]
print(a)          # full Nested list
print(len(a))     # Numbes of inner lists
print(How to print 1st inner list) #print(a[0])->[10,20,30,40]
print(How to print 2nd inner list) #print(a[1])->[50,60,70,80]
print(How to print 3rd inner list) #print(a[2]->[90,100,110,120]
print(How to print 30) #print(a[0][2])
print(How to print 80) #print(a[1][3])
print(How to print 100) #print(a[2][1])
```

6) # find Outputs

```
a=[[10,20],[30,40,50],[60,70,80,90]]
print(How to print 1st inner list) #print(a[0])->[10,20]
print(How to print 2nd inner list) #print(a[1])->[30,40,50]
print(How to print 3rd inner list) #print(a[2])->[60,70,80,90]
print(How to print numbes of elements in 1st inner list) #2
print(How to print number of elements in 2nd inner list) #3
print(How to print number of elements in 3rd inner list) #4
                #print(len(a[0])) #print(len(a[1]))
7) # How to print nested list in different ways #print(len(a[2]))
a=[[10,20],[30,40,50],[60,70,80,90]]
print('Nested list with print function')
print(???)
print('Each inner list of outer list without indexes')
How to print each inner list of list 'a' without using indexes/use of loop)
print('Element in the form of matrix without using indexes')
```

How to print elements of each inner
in matrix style (use nested loop)
print('Element in the form of matrix using indexes')
How to print elements of each inner list using indexes in matrix
style (use nested loop)

(8)
find outputs

a = [[10,20

a = [[10, 20], [30, 40, 50], [60, 70, 80, 90]]
print ('Nested list wish print function')
print (a)
print('Each inner list of outer list without indexes')
for inner in a:
    print (inner)
print('Elements in the form of matrix without using indexes')
    for inner in a:
    for x in inner:
print (x, end = ' ')
print()
print ('Element in the form of matrix using indexed
for i in range(len(a))
  for j in range (len (a[i])):
    print (a[i][j], end = ' ')
print()

9) find outputs

```
a=[[10,20,[30,40],[50,60],[70,80]]
for x in a:  # x takes inner list
    print(x)  # [10,20],[30,40],[50,60],[70,80]
print()
for x,y in a:  # unpack in x & y
print(x,y,sep='...')
```

10....20
30....40
50....60
70....80

10) find outputs

```
a=[[10,20,30],[40,50,60],[70,80,90]]
for x in a:  # x take inner list
    print(x)  # [10,20],[30,40],[50,60],[70,80]
print()
for x,y,z in a:  # unpack in x
    print(x,y,z,sep='...'): # inner list has 3 elements
```

11) find outputs

```
a=[[10,20],[30,40,50],[60,70,80,90]]
for x in a:                  # [10,20]
    print(x)                 # [30,40,50]
for x,y in a                 # [60,70,80,90]
    print(x,y,sep='...')
```

12) find outputs

```
a=[[]]
print(How to print inner list)  # Empty list
print(How to print inner list in another way)  # Empty lis
```

(12) Find outputs

```
a=[[10, 'Rama', 1000.0], [20, 'sita', 2000.0], [15, 'Rajesh', 3500.0],
[18, 'Kiran', 2800.0], [5, 'Amar', 5000.0]]
print(sorted(a))
print(sorted(a, reverse=True))
print(a)
```

[[5, 'Amar', 5000.0], [10, 'Rama', 1000.0], [15, 'Rajesh',
[18, 'Kiran', 2800.0], [20, 'sita', 2000.0]]

[[20, 'sita', 2000.0], [18, 'Kiran', 2800.0], [15, 'Rajesh',
[10, 'Rama', 1000.0], [5, 'Amar', 5000.0]]

[[10, 'Rama', 1000.0], [20, 'sita', 2000.0], [15, 'Rajesh',
3500.0], [18, 'Kiran', 2800.0], [5, 'Amar', 5000.0]]