1.Write a program to find the sum of all the numbers which are divisible by 4.

X = [450, 540, 1256, 2506, 15342, 32424, 20018,56300]

Expected Output:

Given input : [450, 540, 1256, 2506, 15342, 32424, 20018, 56300]
Elements which are divisible by 4 : [540, 1256, 32424, 56300]
Sum of elements which are divisible by 4:90520

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```
# Input List
x=[450,540,1256,2506,15342,32424,20018,56300]

y=[]  # Place holder to store all the
      # numbers which are dibisible by 4
total=0  # Place holder to add all numbers from y
for e in x:
    if e%4==0:
        y.append(e)
        total=total+e

print(f"Given input : {x}")
print(f"Elements which are divisible by 4 : {y}")
print(f"Sum of elements which are divisible by 4:{total}")
```

1. Write a program print an output as a list which contains all indices of the elements which are divisible by 4.

   X = [450, 540, 1256, 2506, 15342, 32424, 20018,56300]

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```
# Solution-1
x=[450,540,1256,2506,15342,32424,20018,56300]
y=[] # elements which are divisible by 4
z = [] # indexes for the elements which are divisible by 4
# To traverse the indexs we can use range() function
for i in range(0,len(x)):
    if x[i]%4==0:
        y.append(x[i])
        z.append(i)

print(f"Given input : {x}")
print(f"Elements which are divisible by 4 : {y}")
print(f"Indexs for the elemets which are divisible by 4:{z}")
```

```
# Solution-2
x=[450,540,1256,2506,15342,32424,20018,56300]
d = {}
# To traverse the indexs we can use range() function
for i in range(0,len(x)):
    if x[i]%4==0:
        d[i] = x[i]
print(f"Given input : {x}")
print(f"Indexs for the elemets which are divisible by 4:{d}")
```

2. Write programs take a value from the input and display the output , how many times the value is repeated from the given list and print the message "**NO ELEMENT FOUND**" incase of no element present.
   X = [20, 19, 25, 17, 32, 17, 39, 17, 20]
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   Note: The list.count() function should returns the number of occurrences , you should not use the function to implement this

```
# Solution-1
v = int(input("Enter a value: "))  # 17

x = [20, 19, 25, 17, 32, 17, 39,  17, 20]
print(f"Input: {x}")
count = 0
if v in x:
    for e in x:
        if e == v:
            count = count +1
    print(f"The elemnet {v} is repeated {count} time")
else:
    print(f"The elemnet {v} is not found")
```

3. WAP print all duplicate elements from the given list
   X = [10, 25, 28, 10, 78, 26, 25, 35, 28]
   #output: [10, 25, 28]
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```
# Solution
x=[10,25,28,10,78,26,25,35,28]
print(f"Input: {x}")
y=[] # for unique
z = [] # for dups
for e in x:
    if e not in y:
        y.append(e)
    else:
        z.append(e)
print(f"Dups: {z}")
print(f"Unique: {y}")
```

4. Write a program reverse given list
   X = [10, 20, 30, 40, 50]
   Note: You should not use list.reverse() function

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```
# Solution-1
x=[10,5,7,18,78]
z=[]
print(f"Input: {x}")
# Traversing a list indexes from last to first
# by using range function
for i in range(len(x)-1,-1,-1):
     z.append(x[i])
print(f"Output reverse list different list: {z}")
```

```
# Solution-2
x=[10,5,7,18,78]

print(f"Input: {x}")
# Traversing a list indexes till half
for i in range(0, len(x)//2):
    t = x[i]  # 5
    x[i] =  x[len(x)-1-i]  # x[5-1-1]  # x[3]
    x[len(x)-1-i] = t
print(f"Output reverse list with same list : {x}")
```

5. Write a program combine all first characters from the given list of strings

   X = [“PYTHON”, “JAVA”, “CPP”, “GO”]
   #output : “PJCG”

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```
x = ["PYTHON","JAVA","CPP","GO"]
y = ""
print(f"Input: {x}")
for word in x:
    print(word[0])
    y = y+word[0]
print(f"Output: {y}")

# Note: If any case , we need to display string as an output
# we need to define empty string as a place holder to store the output
```

6. Write a program combine all list of strings with hyphen

X = [“ABC”, “DEF”, “MNO”, “XYZ”]
#output : ABC-DEF-MNO-XYZ
Note: You should not use str.join() function

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```
x  = ["ABC", "DEF", "MNO", "XYZ"]

output = ""
for i in range(0, len(x)-1):
    output = output + x[i]
    output = output + "-"
print(output+x[len(x)-1])
```

7. Write a program print all diagonal elements from the below matrix
x= [['10', '20', '30'], ['40', '50', '60'], ['70', '80', '90']]
#output : [10, 50, 90]

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```
# Get the diagonal elements
matrix= [['10', '20', '30'], ['40', '50', '60'], ['70', '80', '90']]
daigs = []
for i in range(0, len(matrix)):
    for j in range(0, len(matrix)):
        if i == j:
            daigs.append(matrix[i][j])

print(f"Given Matrix: {matrix}")
print(f"Diagnoal elements: {daigs}")
```

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```
row_size = int(input("Enter row size: "))
col_size = int(input("Enter col size: "))
matrix = []
for i in range(0, row_size):
    row = []
    for j in range(0, col_size):
        #print(i, j)
        s = input(f"Enter ({i} {j})th value: ")
        row.append(s)
    print(f"ROW {i} : {row}")
    matrix.append(row)

print(matrix)
```

9. Write a program construct a dictionary from the given list
X = [(“A”, 65), (“B”, 66), (“C”, 67), (“D”, 68)]
#output: {“A”: 65, “B”: 66, “C”: 67, “D”: 68}
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```
x = [("A", 65), ("B", 66), ("C", 67), ("D", 68)]

print(f"Input: {x}")
d = {}
for item in x:
    k = item[0]
    v = item[1]
    d[k] = v
print(f"Output: {d}")

# "By using built-in function"
print(dict(x))
```

8. Write a program shift the elements from the given list
#input : x = [2, 4, 5, 6]
#output: [4, 5, 6, 2]
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→ **Solution**: x[1:] + [x[0]]

9. Write a program find the maximum element from the list

X = [10, 30, 78, 18, 92, 17]

```
x = [10, 30, 78, 18, 92, 17]

max_ele = x[0]
for i in range(1, len(x)):
    if x[i] > max_ele:
        max_ele = x[i]
print(f"Maximum Element from the list : {max_ele}")
```

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