

CLASS 2 ASSIGNMENT

LIST

```
In [1]: ''' Q1: Write a Python program to remove duplicates from a list.
INPUT: a = [10,20,30,20,10,50,60,40,80,50,40]
OUTPUT: {40, 10, 80, 50, 20, 60, 30} '''
```

```
Out[1]: ' Q1: Write a Python program to remove duplicates from a list.\n INPUT: a = [10,20,30,20,10,50,60,40,80,50,40]\n n OUTPUT: {40, 10, 80, 50, 20, 60, 30} '
```

```
In [2]: # Ans1
a = [10,20,30,20,10,50,60,40,80,50,40]
a = set(a)
print(a)

{40, 10, 80, 50, 20, 60, 30}
```

```
In [3]: '''Q2. Write a Python program to sum all the items in a list.
INPUT: [1,2,-8]
OUTPUT: -5'''
```

```
Out[3]: 'Q2. Write a Python program to sum all the items in a list.\nINPUT: [1,2,-8]\nOUTPUT: -5'
```

```
In [4]: # Ans2
Input = [1,2,-8]
print(sum(Input))
```

-5

```
In [ ]: '''Q3. Write a Python program to count the number of strings from a given list of
strings with length 2 or more and the first and last characters are the same.
INPUT: ['abc', 'xyz', 'aba', '1221']
OUTPUT: 2
'''
```

```
Out[ ]: "Q3. Write a Python program to count the number of strings from a given list of\nstrings with length 2 or more
and the first and last characters are the same.\nINPUT: ['abc', 'xyz', 'aba', '1221']\nOUTPUT: 2\n"
```

```
In [6]: # Ans3
x= ['abc', 'xyz', 'aba', '1221']
y = [i for i in x if len(i)>=2 and i[0] == i[-1]]
print(len(y))
```

2

```
In [7]: '''Q4. Write a Python program to print a specified list after removing the 0th, 4th
and 5th elements.
INPUT: ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']
OUTPUT
G
: ['Green', 'White', 'Black']'''
```

```
Out[7]: "Q4. Write a Python program to print a specified list after removing the 0th, 4th\nand 5th elements.\nINPUT: ['
Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']\nOUTPUT\nG\n: ['Green', 'White', 'Black']"
```

```
In [8]: # Ans4
INPUT= ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']
del INPUT[4:6]
INPUT.pop(0)
print(INPUT)
```

['Green', 'White', 'Black']

```
In [9]: '''Q5. Write a Python program to print the numbers of a specified list after removing
even numbers from it.
INPUT: [7,8, 120, 25, 44, 20, 27]
OUTPUT: [7,25,27]'''
```

```
Out[9]: 'Q5. Write a Python program to print the numbers of a specified list after removing\neven numbers from it.\nINP
UT: [7,8, 120, 25, 44, 20, 27]\nOUTPUT: [7,25,27]'
```

```
In [10]: # Ans5
x = [7,8, 120, 25, 44, 20, 27]
y = []
for i in x:
    if i%2 != 0:
        y.append(i)
```

```
print(y)
```

```
[7, 25, 27]
```

```
In [11]: '''Q6. Write a Python program to get unique values from a list.
INPUT: [10, 20, 30, 40, 20, 50, 60, 40]
OUTPUT: [40, 10, 50, 20, 60, 30]
'''
```

```
Out[11]: 'Q6. Write a Python program to get unique values from a list.\nINPUT: [10, 20, 30, 40, 20, 50, 60, 40]\nOUTPUT: [40, 10, 50, 20, 60, 30]\n'
```

```
In [12]: # Ans6
List2= [10, 20, 30, 40, 20, 50, 60, 40]
Set = set(List2)
List1 = list(Set)
print(List1)
```

```
[40, 10, 50, 20, 60, 30]
```

```
In [13]: '''Q7. Write a Python program to convert a list of characters into a string.
INPUT: ['a', 'b', 'c', 'd']
OUTPUT: abcd'''
```

```
Out[13]: "Q7. Write a Python program to convert a list of characters into a string.\nINPUT: ['a', 'b', 'c', 'd']\nOUTPUT: abcd"
```

```
In [14]: # Ans7
List = ['a', 'b', 'c', 'd']
String = ''
for i in List:
    String = String+i
print(String)
print(type(String))
```

```
abcd
```

```
<class 'str'>
```

```
In [15]: '''Q8. Write a Python program to calculate the difference between the two lists.
INPUT:
list1 = [1, 3, 5, 7, 9]
list2 = [1, 2, 4, 6, 7, 8]
OUTPUT: [9, 3, 5, 8, 2, 4, 6]'''
```

```
Out[15]: 'Q8. Write a Python program to calculate the difference between the two lists.\nINPUT:\nlist1 = [1, 3, 5, 7, 9]\nlist2 = [1, 2, 4, 6, 7, 8]\nOUTPUT: [9, 3, 5, 8, 2, 4, 6]'
```

```
In [16]: # Ans8
list1 = [1, 3, 5, 7, 9]
list2 = [1, 2, 4, 6, 7, 8]
list3 = []
for i in list1:
    if i not in list2:
        list3.append(i)
for j in list2:
    if j not in list1:
        list3.append(j)
print(list3)
```

```
[3, 5, 9, 2, 4, 6, 8]
```

```
In [17]: '''Q9. Write a Python program to get the frequency of elements in a list.
INPUT: [1, 2, 3, 2, 4, 1, 3, 5, 2, 3, 4, 1]
OUTPUT: {1: 3, 2: 3, 3: 3, 4: 2, 5: 1}
'''
```

```
Out[17]: 'Q9. Write a Python program to get the frequency of elements in a list.\nINPUT: [1, 2, 3, 2, 4, 1, 3, 5, 2, 3, 4, 1]\nOUTPUT: {1: 3, 2: 3, 3: 3, 4: 2, 5: 1}\n'
```

```
In [18]: # Ans9
x = [1, 2, 3, 2, 4, 1, 3, 5, 2, 3, 4, 1]
y = {}
for i in x:
    y[i] = x.count(i)
print(y)
```

```
{1: 3, 2: 3, 3: 3, 4: 2, 5: 1}
```

```
In [19]: '''Q10. Write a Python program to find common items in two lists.
INPUT:
color1 = "Red", "Green", "Orange", "White"
color2 = "Black", "Green", "White", "Pink"
OUTPUT: {'Green', 'White'}'''
```

```
Out[19]: 'Q10. Write a Python program to find common items in two lists.\nINPUT:\nncolor1 = "Red", "Green", "Orange", "White"\nncolor2 = "Black", "Green", "White", "Pink"\nOUTPUT: {\n'Green\n', \n'White\n'}'
```

```
In [20]: #Ans10
color1 = ["Red", "Green", "Orange", "White"]
color2 = ["Black", "Green", "White", "Pink"]
set1 = set(color1)
set2 = set(color2)
Output = set1.intersection(set2)
print(Output)

{'Green', 'White'}
```

```
In [21]: '''Q11. Write a Python program to create a list by concatenating a given list with a
range from 1 to n.
INPUT : ['p', 'q'] and n =5
OUTPUT: ['p1', 'q1', 'p2', 'q2', 'p3', 'q3', 'p4', 'q4', 'p5', 'q5']'''
```

```
Out[21]: "Q11. Write a Python program to create a list by concatenating a given list with a\nrange from 1 to n.\nINPUT :
['p', 'q'] and n =5\nOUTPUT: ['p1', 'q1', 'p2', 'q2', 'p3', 'q3', 'p4', 'q4', 'p5', 'q5']"
```

```
In [22]: #Ans11
INPUT = ['p', 'q']
x = [1,2,3,4,5]
new_list = []
for i in x:
    for j in INPUT:
        new_list.append(j+str(i))
print(new_list)
```

```
['p1', 'q1', 'p2', 'q2', 'p3', 'q3', 'p4', 'q4', 'p5', 'q5']
```

```
In [23]: '''Q12. Write a Python program to convert a list of multiple integers into a single
integer.
INPUT: [11, 33, 50]
OUTPUT 113350'''
```

```
Out[23]: 'Q12. Write a Python program to convert a list of multiple integers into a single\ninteger.\nINPUT: [11, 33, 50]
\nOUTPUT 113350'
```

```
In [24]: # Ans12
x = [11, 33, 50]
y = ''
for i in x:
    y = y+str(i)
z = int(y)
print(z)
print(type(z))
```

```
113350
```

```
<class 'int'>
```

```
In [25]: '''Q13. Write a Python program to split a list into different variables.
INPUT: color = [("Black", "#000000", "rgb(0, 0, 0)"), ("Red", "#FF0000", "rgb(255,
0, 0)"), ("Yellow", "#FFFF00", "rgb(255, 255, 0)")]
OUTPUT:
Var1= ('Black', '#000000', 'rgb(0, 0, 0)')
Var2= ('Red', '#FF0000', 'rgb(255, 0, 0)')
Var3 = ('Yellow', '#FFFF00', 'rgb(255, 255, 0)')
'''
```

```
Out[25]: 'Q13. Write a Python program to split a list into different variables.\nINPUT: color = [("Black", "#000000", "r
gb(0, 0, 0)"), ("Red", "#FF0000", "rgb(255,\n0, 0)"), ("Yellow", "#FFFF00", "rgb(255, 255, 0)"]]\nOUTPUT:\nVar1
= (\'Black\', \'#000000\', \'rgb(0, 0, 0)\')\nVar2= (\'Red\', \'#FF0000\', \'rgb(255, 0, 0)\')\nVar3 = (\'Yello
w\', \'#FFFF00\', \'rgb(255, 255, 0)\')\n'
```

```
In [26]: # Ans13
x = [("Black", "#000000", "rgb(0, 0, 0)"), ("Red", "#FF0000", "rgb(255, 0, 0)"), ("Yellow", "#FFFF00", "rgb(255
for i in x:
    if x[0]==i:
        print('Var1=',i)
    elif x[1]==i:
        print('Var2=',i)
    else:
        print('Var3=',i)
```

```
Var1= ('Black', '#000000', 'rgb(0, 0, 0)')
```

```
Var2= ('Red', '#FF0000', 'rgb(255, 0, 0)')
```

```
Var3= ('Yellow', '#FFFF00', 'rgb(255, 255, 0)')
```

```
In [27]: '''Q14. Write a Python program to split a list every Nth element.
INPUT: ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n']
OUTPUT: [['a', 'd', 'g', 'j', 'm'], ['b', 'e', 'h', 'k', 'n'], ['c', 'f', 'i', 'l']]'''
```

```
Out[27]: "Q14. Write a Python program to split a list every Nth element.\nINPUT: ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h'
, 'i', 'j', 'k', 'l', 'm', 'n']\nOUTPUT: [['a', 'd', 'g', 'j', 'm'], ['b', 'e', 'h', 'k', 'n'], ['c', 'f', 'i',
'l']]"
```

```
In [28]: x = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n']
y = []

def Split(n):
    for i in range(n):
        y.append(list(x[i::n]))
    return y

Split(3)
```

```
Out[28]: [['a', 'd', 'g', 'j', 'm'], ['b', 'e', 'h', 'k', 'n'], ['c', 'f', 'i', 'l']]
```

TUPLE

```
In [29]: '''Q15. Write a Python program to unpack a tuple into several variables.
INPUT: (4,8,3)
OUTPUT:
A1=4
A2=8
A3=3'''
```

```
Out[29]: 'Q15. Write a Python program to unpack a tuple into several variables.\nINPUT: (4,8,3)\nOUTPUT:\nA1=4\nA2=8\nA3=3'
```

```
In [30]: # Ans15
x = (4,8,3)
# len(x)
a,b,c = x[0:3]
print('A1=',a)
print('A2=',b)
print('A3=',c)
```

```
A1= 4
A2= 8
A3= 3
```

```
In [31]: '''Q16. Write a Python program to check whether an element (5) exists within a tuple.
INPUT: ("w", 3, "r", "e", "s", "o", "u", "r", "c", "e")
OUTPUT: FALSE'''
```

```
Out[31]: 'Q16. Write a Python program to check whether an element (5) exists within a tuple.\nINPUT: ("w", 3, "r", "e", "s", "o", "u", "r", "c", "e")\nOUTPUT: FALSE'
```

```
In [32]: # Ans16
x = ("w", 3, "r", "e", "s", "o", "u", "r", "c", "e")
print(5 in x)
```

```
False
```

```
In [33]: '''Q17. Write a Python program to reverse a tuple.
INPUT: (5,10,15,20)
OUTPUT: (20,15,10,5)
'''
```

```
Out[33]: 'Q17. Write a Python program to reverse a tuple.\nINPUT: (5,10,15,20)\nOUTPUT: (20,15,10,5)\n'
```

```
In [34]: # Ans17
x = (5,10,15,20)
y = list(x)
y.reverse()
print(tuple(y))
```

```
(20, 15, 10, 5)
```

```
In [35]: '''Q18. Write a Python program to print a tuple with string formatting.
INPUT: (100, 200, 300)
OUTPUT: This is a tuple (100, 200, 300)
'''
```

```
Out[35]: 'Q18. Write a Python program to print a tuple with string formatting.\nINPUT: (100, 200, 300)\nOUTPUT: This is a tuple (100, 200, 300)\n'
```

```
In [36]: # Ans18
x = (100, 200, 300)
print('This is a tuple {0}'.format(x))
```

```
This is a tuple (100, 200, 300)
```

```
In [37]: '''Q19. Write a Python program to remove an empty tuple(s) from a list of tuples.
INPUT: [(), (), ('',), ('a', 'b'), ('a', 'b', 'c'), ('d')]
OUTPUT: [('',), ('a', 'b'), ('a', 'b', 'c'), 'd']
'''
```

Out[37]: "Q19. Write a Python program to remove an empty tuple(s) from a list of tuples.\nINPUT: [(), (), ('',), ('a', 'b'), ('a', 'b', 'c'), ('d')]\nOUTPUT: [('',), ('a', 'b'), ('a', 'b', 'c'), 'd']\n"

```
In [38]: # Ans19
x = [(), (), ('',), ('a', 'b'), ('a', 'b', 'c'), ('d')]
y = []
for i in x:
    if i != ():
        y.append(i)

print(y)
```

[('',), ('a', 'b'), ('a', 'b', 'c'), 'd']

In [39]: '''Q20. Write a Python program to convert a given string to a tuple.
INPUT: "Shailja"
OUTPUT:('s','h','a','i','l','j','a')'''

Out[39]: 'Q20. Write a Python program to convert a given string to a tuple.\nINPUT: "Shailja"\nOUTPUT:('s','h','a','i','l','j','a')

```
In [40]: # Ans20
x = 'Shailja'
y = tuple(x)
print(y)
```

('S', 'h', 'a', 'i', 'l', 'j', 'a')

In [41]: '''Q21. Write a Python program to compute the element-wise sum of given tuples.
INPUT:
(1, 2, 3, 4)
(3, 5, 2, 1)
(2, 2, 3, 1)
OUTPUT:
(6, 9, 8, 6)'''

Out[41]: 'Q21. Write a Python program to compute the element-wise sum of given tuples.\nINPUT:\n(1, 2, 3, 4)\n(3, 5, 2, 1)\n(2, 2, 3, 1)\nOUTPUT:\n(6, 9, 8, 6)'

```
In [42]: # Ans21
x = (1, 2, 3, 4)
y = (3, 5, 2, 1)
z = (2, 2, 3, 1)
i = 0
a = []
while i < len(x):
    b = x[i]+y[i]+z[i]
    a.append(b)
    i += 1

print(a)
```

[6, 9, 8, 6]

In [43]: '''Q22.- Write a Python program to convert a given list of tuples to a list of lists.
INPUT: [(1, 2), (2, 3), (3, 4)]
OUTPUT: [[1, 2], [2, 3], [3, 4]]
'''

Out[43]: 'Q22.- Write a Python program to convert a given list of tuples to a list of lists.\nINPUT: [(1, 2), (2, 3), (3, 4)]\nOUTPUT: [[1, 2], [2, 3], [3, 4]]\n'

```
In [44]: # Ans22
x = [(1, 2), (2, 3), (3, 4)]
y = []
for i in x:
    a = list(i)
    y.append(a)
print(y)
```

[list[1, 2], list[2, 3], list[3, 4]]

SET

In [45]: '''Q23. Write a Python program to remove an item from a set if it is present in the set.
INPUT: 0, 1, 2, 3, 4, 5}
OUTPUT:
Remove 2 from the said set:
{0, 1, 2, 3}
Remove 7 from the said set:
{0, 1, 2, 3}'''

Out[45]: 'Q23. Write a Python program to remove an item from a set if it is present in the set.\nINPUT: 0, 1, 2, 3, 4, 5\n\nOUTPUT:\n\nRemove 2 from the said set:\n{0, 1, 2, 3}\n\nRemove 7 from the said set:\n{0, 1, 2, 3}'

```
In [46]: # Ans23
x = {0, 1, 2, 3, 4, 5}
x.remove(2)
print('Remove 2 from said set:',x)
x.remove(1)
print('Remove 1 from said set:',x)
```

Remove 2 from said set: {0, 1, 3, 4, 5}

Remove 1 from said set: {0, 3, 4, 5}

```
In [47]: '''Q24. Write a Python program to check if a set is a subset of another set.
INPUT:
x: {'mango', 'apple'}
y: {'mango', 'orange'}
z: {'mango'}
OUTPUT:
If x is subset of y:False
If y is subset of z:False
If z is subset of y:True'''
```

Out[47]: "Q24. Write a Python program to check if a set is a subset of another set.\nINPUT:\nx: {'mango', 'apple'}\ny: {'mango', 'orange'}\nz: {'mango'}\nOUTPUT:\nIf x is subset of y:False\nIf y is subset of z:False\nIf z is subset of y:True"

```
In [48]: # Ans24
x= {'mango', 'apple'}
y= {'mango', 'orange'}
z= {'mango'}
for i in z:
    if i in x and i in y:
        print('z is a subset of both x & y')
print('Is x is a subset of y:',x.issubset(y))
print('Is x is a subset of z:',x.issubset(z))
print('Is y is a subset of x:',y.issubset(x))
print('Is y is a subset of z:',y.issubset(z))
```

z is a subset of both x & y

Is x is a subset of y: False

Is x is a subset of z: False

Is y is a subset of x: False

Is y is a subset of z: False

```
In [49]: '''Q25. Write a Python program to remove all elements from a given set at once.
INPUT: {'Green', 'Black', 'Red', 'White'}
OUTPUT: set()
'''
```

Out[49]: "Q25. Write a Python program to remove all elements from a given set at once.\nINPUT: {'Green', 'Black', 'Red', 'White'}\n\nOUTPUT: set()\n"

```
In [50]: # Ans25
x = {'Green', 'Black', 'Red', 'White'}
x.clear()
print(x)
```

set()

```
In [51]: '''Q26. Write a Python program to check if two given sets have no elements in
common.
INPUT:
S1={1, 2, 3, 4}
S2={4, 5, 6, 7}
OUTPUT:
False( as 4 is common)'''
```

Out[51]: 'Q26. Write a Python program to check if two given sets have no elements in\ncommon.\nINPUT:\nS1={1, 2, 3, 4}\nS2={4, 5, 6, 7}\n\nOUTPUT:\n\nFalse(as 4 is common)'

```
In [52]: # Ans26
S1={1, 2, 3, 4}
S2={4, 5, 6, 7}
for i in S1:
    if i in S2:
        print(i,'item is common in both set')
```

4 item is common in both set

```
In [53]: '''Q27. Write a Python program to check if a given value(10) is present in a set or not.
INPUT:{1, 3, 5, 7, 9, 11}
OUTPUT: False'''
```

Out[53]: 'Q27. Write a Python program to check if a given value(10) is present in a set or not.\nINPUT:{1, 3, 5, 7, 9, 11}\nOUTPUT: False'

```
In [54]: # Ans27
x = {1, 3, 5, 7, 9, 11}
print('Value(10) available in x, True or False:', 10 in x)
```

Value(10) available in x, True or False: False

In [55]: '''Q28. Write a Python program to remove all duplicates from a given list of strings and return a list of unique strings. Use the Python set data type.
INPUT: ['Python', 'Exercises', 'Practice', 'Solution', 'Exercises']
OUTPUT:['Solution', 'Python', 'Exercises', 'Practice']'''

Out[55]: "Q28. Write a Python program to remove all duplicates from a given list of strings\nand return a list of unique strings. Use the Python set data type.\nINPUT: ['Python', 'Exercises', 'Practice', 'Solution', 'Exercises']\nOUTPUT:['Solution', 'Python', 'Exercises', 'Practice']"

```
In [56]: # Ans28
x = ['Python', 'Exercises', 'Practice', 'Solution', 'Exercises']
y = []
for i in x:
    if i not in y:
        y.append(i)
print(y)
```

['Python', 'Exercises', 'Practice', 'Solution']

Dictionary

In [57]: '''Q29. Write a Python script to add a key to a dictionary.
Input: 0: 10, 1: 20}
Output: {0: 10, 1: 20, 2: 30}'''

Out[57]: 'Q29. Write a Python script to add a key to a dictionary.\nInput: 0: 10, 1: 20}\nOutput: {0: 10, 1: 20, 2: 30}'

```
In [58]: # Ans29
x= {0: 10, 1: 20}
x[2]=30
print(x)
```

{0: 10, 1: 20, 2: 30}

In [59]: '''Q30. Write a Python script to concatenate the following dictionaries to create a new one.
Input:
dic1= {1:10, 2:20}
dic2= {3:30, 4:40}
dic3={5:50,6:60}
Output: {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
'''

Out[59]: 'Q30. Write a Python script to concatenate the following dictionaries to create a new one.\nInput:\ndic1= {1:10, 2:20}\ndic2= {3:30, 4:40}\ndic3={5:50,6:60}\nOutput: {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}\n'

```
In [60]: # Ans30
dic1= {1:10, 2:20}
dic2= {3:30, 4:40}
dic3={5:50,6:60}
dic4 = dic1 | dic2 | dic3
print(dic4)
```

{1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

In [61]: '''Q31. Write a Python script to check whether a given key (10) already exists in a dictionary.
Input: 1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
Output:" Key 10 is not present in the dictionary"'''

Out[61]: 'Q31. Write a Python script to check whether a given key (10) already exists in a dictionary.\nInput: 1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}\nOutput:" Key 10 is not present in the dictionary"'

```
In [62]: # Ans31
x = {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
if 10 in x:
    print('Key 10 is present in x dictionary')
else:
    print('Key 10 is not present in x dictionary')
```

Key 10 is not present in x dictionary

In [63]: '''Q32. Write a Python program to remove a key(age) from a dictionary.
Input:

```

'name': 'John Doe',
'age': 30,
'occupation': 'Software Engineer',
'email': 'john@example.com',
'is_employed': True
}
Output:
'name': 'John Doe',
'occupation': 'Software Engineer',
'email': 'john@example.com',
'is_employed': True
}
...

```

Out[63]: "Q32. Write a Python program to remove a key(age) from a dictionary.\nInput:\n'name': 'John Doe',\n'age': 30,\n'occupation': 'Software Engineer',\n'email': 'john@example.com',\n'is_employed': True\n}\nOutput:\n'name': 'John Doe',\n'occupation': 'Software Engineer',\n'email': 'john@example.com',\n'is_employed': True\n}\n"

In [64]: # Ans30
x = {'name': 'John Doe', 'age': 30, 'occupation': 'Software Engineer', 'email': 'john@example.com', 'is_employed': True}
print("Before del Key :email", x)
del x['email']
print("After del Key :email", x)

Before del Key :email {'name': 'John Doe', 'age': 30, 'occupation': 'Software Engineer', 'email': 'john@example.com', 'is_employed': True}
After del Key :email {'name': 'John Doe', 'age': 30, 'occupation': 'Software Engineer', 'is_employed': True}

In [65]: '''Q31. Write a Python program to remove duplicates from the dictionary.
Input: {'a': 1, 'b': 2, 'c': 1, 'd': 3, 'e': 2, 'f': 4}
Output: {'a': 1, 'b': 2, 'd': 3, 'f': 4}'''

Out[65]: "Q31. Write a Python program to remove duplicates from the dictionary.\nInput: {'a': 1, 'b': 2, 'c': 1, 'd': 3, 'e': 2, 'f': 4}\nOutput: {'a': 1, 'b': 2, 'd': 3, 'f': 4}"

In [66]: # Ans31
x = {'a': 1, 'b': 2, 'c': 1, 'd': 3, 'e': 2, 'f': 4}
y = {}
z = []
for i in x:
 if x[i] not in z:
 y[i] = x[i]
 z.append(x[i])
print(y)

{'a': 1, 'b': 2, 'd': 3, 'f': 4}

In [67]: '''Q32. Write a Python program to get the maximum and minimum values of a dictionary.
Input: {'u':1000, 'v':3000, 'x':500, 'y':5874, 'z': 560}
Output:
Maximum Value: 5874
Minimum Value: 500'''

Out[67]: "Q32. Write a Python program to get the maximum and minimum values of a dictionary.\nInput: {'u':1000, 'v':3000, 'x':500, 'y':5874, 'z': 560}\nOutput:\nMaximum Value: 5874\nMinimum Value: 500"

In [68]: # Ans32
x = {'u':1000, 'v':3000, 'x':500, 'y':5874, 'z': 560}
y = list(x.values())
print('Maximum Value:', max(y))
print('Minimum Value:', min(y))

Maximum Value: 5874
Minimum Value: 500

In [69]: '''Q33. Write a Python program to check if a dictionary is empty or not.
Input: my_dict = {}
Output: "Dictionary is Empty"'''

Out[69]: 'Q33. Write a Python program to check if a dictionary is empty or not.\nInput: my_dict = {}\nOutput: "Dictionary is Empty"'

In [70]: # Ans33
my_dict = {}
if len(my_dict) == 0:
 print('my_dict dictionary is empty')
else:
 print('my_dict dictionary is not empty')

my_dict dictionary is empty

In [71]: '''Q34. Write a Python program to create a dictionary of keys x, y, and z where each key has as value a list from 11-20, 21-30, and 31-40 respectively. Access the fifth value of each key from the dictionary.


```

Input:
{'x': [11, 12, 13, 14, 15, 16, 17, 18, 19],
'y': [21, 22, 23, 24, 25, 26, 27, 28, 29],
'z': [31, 32, 33, 34, 35, 36, 37, 38, 39]}
Output:
15
25
30
...

```

Out[71]: "Q34. Write a Python program to create a dictionary of keys x, y, and z where each key has as value a list from 11-20, 21-30, and 31-40 respectively. Access the fifth value of each key from the dictionary.\nInput:\n{'x': [11, 12, 13, 14, 15, 16, 17, 18, 19],\n'y': [21, 22, 23, 24, 25, 26, 27, 28, 29],\n'z': [31, 32, 33, 34, 35, 36, 37, 38, 39]}\nOutput:\n15\n25\n30\n"

```

In [72]: # Ans34
my_dict = {'x': [11,12,13,14,15,16,17,18,19], 'y': [21,22,23,24,25,26,27,28,29], 'z': [31,32,33,34,35,36,37,38,39]}
print(my_dict['x'][4])
print(my_dict['y'][4])
print(my_dict['z'][4])

```

```

15
25
35

```

```

In [73]: '''Q35. Write a Python program to drop empty items from a given dictionary.
Input: {'c1': 'Red', 'c2': 'Green', 'c3': None}
Output: {'c1': 'Red', 'c2': 'Green'}'''

```

Out[73]: "Q35. Write a Python program to drop empty items from a given dictionary.\nInput: {'c1': 'Red', 'c2': 'Green', 'c3': None}\nOutput: {'c1': 'Red', 'c2': 'Green'}"

```

In [74]: # Ans35
x = {'c1': 'Red', 'c2': 'Green', 'c3': None}
y = {}
for a in x:
    if x[a] == None:
        break
    else:
        y[a] = x[a]
print(y)

```

```

{'c1': 'Red', 'c2': 'Green'}

```

```

In [75]: '''Q36. Write a Python program to filter a dictionary based on values>170
Input : {'Cierra Vega': 175, 'Alden Cantrell': 180, 'Kierra Gentry': 165, 'Pierre Cox': 190}
Output : {'Cierra Vega': 175, 'Alden Cantrell': 180, 'Pierre Cox': 190}'''

```

Out[75]: "Q36. Write a Python program to filter a dictionary based on values>170\nInput : {'Cierra Vega': 175, 'Alden Cantrell': 180, 'Kierra Gentry': 165, 'Pierre Cox': 190}\nOutput : {'Cierra Vega': 175, 'Alden Cantrell': 180, 'Pierre Cox': 190}"

```

In [76]: # Ans36
x = {'Cierra Vega': 175, 'Alden Cantrell': 180, 'Kierra Gentry': 165, 'Pierre Cox': 190}
y = {}
for i in x:
    if x[i]>170:
        y[i] = x[i]
print(y)

```

```

{'Cierra Vega': 175, 'Alden Cantrell': 180, 'Pierre Cox': 190}

```

```

In [77]: '''Q37. Write a Python program to verify that all values in a dictionary are the same.
Input: {'Cierra Vega': 12, 'Alden Cantrell': 12, 'Kierra Gentry': 12, 'Pierre Cox': 12}
Output: " All values are 12"'''

```

Out[77]: "Q37. Write a Python program to verify that all values in a dictionary are the same.\nInput: {'Cierra Vega': 12, 'Alden Cantrell': 12, 'Kierra Gentry': 12, 'Pierre Cox': 12}\nOutput: " All values are 12"

```

In [78]: # Ans37
x = {'Cierra Vega': 12, 'Alden Cantrell': 12, 'Kierra Gentry': 12, 'Pierre Cox': 12}
y = list(x.values())
z = set(y)
for i in z:
    if len(z)==1:
        print('All values are same:',z)
    else:
        print('All values are not same')

```

```

All values are same: {12}

```

```

In [79]: '''Q38. Write a Python program to convert string values of a given dictionary into

```

```
integer/float datatypes.
INPUT:
[{'x': '10', 'y': '20', 'z': '30'}, {'p': '40', 'q': '50', 'r': '60'}]
OUTPUT:
String values of a given dictionary, into integer types:
[{'x': 10, 'y': 20, 'z': 30}, {'p': 40, 'q': 50, 'r': 60}]
String values of a given dictionary, into float types:
[{'x': 10.12, 'y': 20.23, 'z': 30.0}, {'p': 40.0, 'q': 50.19, 'r': 60.99}]'''
```

Out[79]: "Q38. Write a Python program to convert string values of a given dictionary into\ninteger/float datatypes.\nINPUT:\n[{'x': '10', 'y': '20', 'z': '30'}, {'p': '40', 'q': '50', 'r': '60'}]\nOUTPUT:\nString values of a given dictionary, into integer types:\n[{'x': 10, 'y': 20, 'z': 30}, {'p': 40, 'q': 50, 'r': 60}]\nString values of a given dictionary, into float types:\n[{'x': 10.12, 'y': 20.23, 'z': 30.0}, {'p': 40.0, 'q': 50.19, 'r': 60.99}]\n"

```
In [80]: # Ans38
a = [{'x': '10', 'y': '20', 'z': '30'}, {'p': '40', 'q': '50', 'r': '60'}]
b = {}
c = {}
d = {}
e = {}
x,y = a[0:]
for j in x:
    b[j] = int(x[j])
for k in y:
    c[k] = int(y[k])
for l in x:
    d[l] = float(x[l])
for m in y:
    e[m] = float(y[m])
print('String values of a given dictionary, into integer types:',[b,c])
print('String values of a given dictionary, into float types:',[d,e])
```

String values of a given dictionary, into integer types: [{'x': 10, 'y': 20, 'z': 30}, {'p': 40, 'q': 50, 'r': 60}]

String values of a given dictionary, into float types: [{'x': 10.0, 'y': 20.0, 'z': 30.0}, {'p': 40.0, 'q': 50.0, 'r': 60.0}]

```
In [81]: '''Q39. Write a Python program to filter even numbers from a dictionary of values.
INPUT:
{'V': [1, 4, 6, 10], 'VI': [1, 4, 12], 'VII': [1, 3, 8]}
OUTPUT:
{'V': [4, 6, 10], 'VI': [4, 12], 'VII': [8]}'''
```

Out[81]: "Q39. Write a Python program to filter even numbers from a dictionary of values.\nINPUT:\n{'V': [1, 4, 6, 10], 'VI': [1, 4, 12], 'VII': [1, 3, 8]}\nOUTPUT:\n{'V': [4, 6, 10], 'VI': [4, 12], 'VII': [8]}"

```
In [82]: # Ans39
x = {'V': [1, 4, 6, 10], 'VI': [1, 4, 12], 'VII': [1, 3, 8]}
y = list(x.values())
z = list(x.keys())
m,n,o = z[0:]
a,b,c = y[0:]
d=[]
e=[]
f=[]
g = {}
for i in a:
    if i%2 == 0:
        d.append(i)
for j in b:
    if j%2 == 0:
        e.append(j)
for k in c:
    if k%2 == 0:
        f.append(k)
g[m]=d
g[n]=e
g[o]=f
print(g)
```

{'V': [4, 6, 10], 'VI': [4, 12], 'VII': [8]}

String

```
In [83]: '''Q40. Write a Python program to count the number of characters (character
frequency) in a string.
INPUT: google.com
OUTPUT: {'g': 2, 'o': 3, 'l': 1, 'e': 1, '.': 1, 'c': 1, 'm': 1}
'''
```

Out[83]: "Q40. Write a Python program to count the number of characters (character\nfrequency) in a string.\nINPUT: google.com\nOUTPUT: {'g': 2, 'o': 3, 'l': 1, 'e': 1, '.': 1, 'c': 1, 'm': 1}\n"

```
In [84]: # Ans40
x = 'google.com'
y = {}
for i in x:
    y[i] = (x.count(i))
print(y)
```

{'g': 2, 'o': 3, 'l': 1, 'e': 1, '.': 1, 'c': 1, 'm': 1}

```
In [85]: '''Q41. Write a Python program to get a string made of the first 2 and last 2
characters of a given string. If the string length is less than 2, return the empty
string instead.
INPUT: 'w3resource'
OUTPUT : 'w3ce'
INPUT: 'w3'
OUTPUT: 'w3w3' '''
```

Out[85]: "Q41. Write a Python program to get a string made of the first 2 and last 2\ncharacters of a given string. If the string length is less than 2, return the empty\nstring instead.\nINPUT: 'w3resource'\nOUTPUT : 'w3ce'\nINPUT : 'w3'\nOUTPUT: 'w3w3' "

```
In [86]: # Ans41
def String(x):
    if len(x)<2:
        print(' ')
    else:
        print(x[0:2]+x[-2:])
x = 'w3resource'
String(x)
```

w3ce

```
In [87]: '''Q42. Write a Python program to remove the 5th index character from a nonempty string.
INPUT:'Python'
OUTPUT: Pytho'''
```

Out[87]: 'Q42. Write a Python program to remove the 5th index character from a nonempty string.\nINPUT:'Python'\nOUTPUT: Pytho'

```
In [88]: # Ans42
x = 'Python'
y = x.replace(x[5], '')
print(y)
```

Pytho

```
In [89]: '''Q43. Write a Python program to count the occurrences of each word in a given
sentence.
INPUT: 'the quick brown fox jumps over the lazy dog.'
OUTPUT: {'the': 2, 'jumps': 1, 'brown': 1, 'lazy': 1, 'fox': 1, 'over': 1, 'quick': 1,
'dog.': 1}'''
```

Out[89]: "Q43. Write a Python program to count the occurrences of each word in a given\nsentence.\nINPUT: 'the quick brown fox jumps over the lazy dog.'\nOUTPUT: {'the': 2, 'jumps': 1, 'brown': 1, 'lazy': 1, 'fox': 1, 'over': 1, 'quick': 1,\n'dog.': 1}\n"

```
In [90]: # Ans43
x= 'the quick brown fox jumps over the lazy dog.'
z = x.split(' ')
y = {}
for i in z:
    y[i] = z.count(i)
print(y)
```

{'the': 2, 'quick': 1, 'brown': 1, 'fox': 1, 'jumps': 1, 'over': 1, 'lazy': 1, 'dog.': 1}

```
In [91]: '''Q44. Write a Python function to insert a string in the middle of a string.
INPUT: '[[[]]', 'Python')
OUTPUT: [[Python]]
'''
```

Out[91]: "Q44. Write a Python function to insert a string in the middle of a string.\nINPUT: '[[[]]', 'Python')\nOUTPUT: [[Python]]\n"

```
In [92]: # Ans44
def middle(x,y):
    i = int(len(x)/2)
    z = x[:i]+y+x[i:]
    print(z)

middle('[[[]]', 'Python')
```

[[Python]]

```
In [93]: '''Q45. Write a Python function to reverse a string if its length is a multiple of 4.
INPUT: 'python'
OUTPUT: 'nohtyp'
'''
```

```
Out[93]: 'Q45. Write a Python function to reverse a string if its length is a multiple of 4.\nINPUT: 'python'\nOUTPUT: 'nohtyp'\n'
```

```
In [94]: # Ans45
x = 'python'
y = x[::-1]
print(y)
```

nohtyp

```
In [95]: '''Q46. Write a Python program to check whether a string starts with specified
characters (grow)
INPUT: " growdataskills"
OUTPUT: TRUE'''
```

```
Out[95]: 'Q46. Write a Python program to check whether a string starts with specified\ncharacters (grow)\nINPUT: " growda
taskills"\nOUTPUT: TRUE'
```

```
In [96]: # Ans46
x = 'growdataskills'
print(x.startswith('grow'))
```

True

```
In [97]: '''Q47. Write a Python program to reverse words in a string.
INPUT: "The quick brown fox jumps over the lazy dog."
OUPUT: "dog. lazy the over jumps fox brown quick The"'''
```

```
Out[97]: 'Q47. Write a Python program to reverse words in a string.\nINPUT: "The quick brown fox jumps over the lazy dog
."\nOUPUT: "dog. lazy the over jumps fox brown quick The"'
```

```
In [98]: # Ans47
x = 'The quick brown fox jumps over the lazy dog.'
y = list(x.split(' '))
z = y[::-1]

print(' '.join(z))
```

dog. lazy the over jumps fox brown quick The

```
In [99]: '''Q48. Write a Python program to check whether a string contains all letters of the
alphabet.
INPUT: 'The quick brown fox jumps over the lazy cat'
OUTPUT: FALSE'''
```

```
Out[99]: "Q48. Write a Python program to check whether a string contains all letters of the\nalphabet.\nINPUT: 'The quic
k brown fox jumps over the lazy cat'\nOUTPUT: FALSE"
```

```
In [100]: # Ans48
x = 'The quick brown fox jumps over the lazy cat'
print('x contains all the letters of alphabet: True or False==> ',x.isalpha())
```

x contains all the letters of alphabet: True or False==> False

```
In [101]: '''Q49. Write a Python program to count and display vowels in text.
INPUT: resource
OUTPUT: 4 -> ['e', 'o', 'u', 'e']'''
```

```
Out[101]: "Q49. Write a Python program to count and display vowels in text.\nINPUT: resource\nOUTPUT: 4 -> ['e', 'o', 'u
', 'e']"
```

```
In [102]: # Ans49
x = 'resource'
y = 'aeiouAEIOU'
z = []
for i in x:
    if i in y:
        z.append(i)
print('Vowels in text resources are:',z,'And are',len(z), 'in numbers')
```

Vowels in text resources are: ['e', 'o', 'u', 'e'] And are 4 in numbers

```
In [ ]:
```