Python Practical 3
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Section: C
Batch: C4

Do as Directed for Dictionary

In [19]:

```
Employee_data = { 101:['Shiva', 24, 'Content Strategist'] ,102:['Udit',25,'Content Strategist'], 103:['Sonam', 28
,'Sr Manager'], 104:['Ansari',29,'Product Lead' ],105:['Huzefa',32,'ProjectManager']}
###Get details of the oldest Employee
a=0
b=0
for i in Employee_data:
      if Employee_data[i][1]>a: b=i
oldest_emp=Employee_data[b]
print(oldest_emp)
```

```
['Huzefa', 32, 'ProjectManager']
```

Identify the age of the employee with employee id 159 [If the employee isn't present return NA]

In [20]:

```
# Type your code here
Employee_data = { 101:['Shiva', 24, 'Content Strategist'] ,102:['Udit',25,'Content Strategist'], 103:['Sonam', 28
,'Sr Manager'], 104:['Ansari',29,'Product Lead' ],105:['Huzefa',32,'ProjectManager' ]} a=int(input("Enter
Employee Id"))
if(a==101):
 print("Age of Employee 101 is 24 yrs")
elif(a==102):
 print("Age of Employee 102 is 25 yrs")
elif(a==103):
 print("Age of Employee 103 is 28 yrs")
elif(a==104):
 print("Age of Employee 104 is 29 yrs")
elif(a==105):
 print("Age of Employee 105 is 32 yrs")
elif(a!=101 or a!=102 or a!=103 or a!=104 or a!=105): print("NA")
```

```
Enter Employee Id103
Age of Employee 103 is 28 yrs
```

Count the total number of employee in the organization

In [21]:

```
# Type your code here
Employee_data = { 101:['Shiva', 24, 'Content Strategist'] ,102:['Udit',25,'Content Strategist'], 103:['Sonam', 28
,'Sr Manager'], 104:['Ansari',29,'Product Lead' ],105:['Huzefa',32,'ProjectManager' ]}
print(len(Employee_data))
```

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5
```

Calculate the mean age of the employees

In [22]:

```
# Type your code here
Employee_data = { 101:['Shiva', 24, 'Content Strategist'] ,102:['Udit',25,'Content Strategist'], 103:['Sonam', 28
,'Sr Manager'], 104:['Ansari',29,'Product Lead' ],105:['Huzefa',32,'ProjectManager' ]} age=0
for i in Employee_data:
    age+=Employee_data[i][1]
mean_age=age/5
print('Mean age of employees is:',mean_age)
```

```
Mean age of employees is: 27.6
```

Perform the following two tasks and then calculate the updated mean age of the employees Task1 Update the ages of employee id - 104,140, and 164 as 27

In [23]:

```
# Type your code here
Employee_data = { 101:['Shiva', 24, 'Content Strategist'] ,102:['Udit',25,'Content Strategist'], 103:['Sonam', 28
,'Sr Manager'], 104:['Ansari',29,'Product Lead' ],105:['Huzefa',32,'ProjectManager' ]}
for i in Employee_data:
    if (i==104 or i==140 or i==164):
        Employee_data[i][1]=27
age=0
for i in Employee_data:
    age+=Employee_data[i][1]
new_mean_age=age/5
```

```
Updated mean age of the employees: 27.2
```

2. Let's say you have a huge list that contains student grades:

Grades = ['A', 'A', 'B', 'C', 'D', 'B', 'B', 'C', 'D', 'E', 'C', 'C', 'A', 'B', 'F', 'D', 'C', 'B', 'C', 'A', 'B', 'F', 'B', 'A', 'E', 'B', 'B', 'C', 'D'] You want to identify distinct grades allotted to students.

In [9]:

```
## type your code here
Grades = {'A', 'A', 'B', 'C', 'D', 'B', 'B', 'C', 'D', 'E', 'C', 'C', 'A', 'B', 'F', 'D', 'C', 'B', 'C', 'A', 'B'
, 'F', 'B', 'A', 'E', 'B', 'B', 'C', 'D'}
print(len(Grades))
```

```
6
```

3. Let's say you have two lists A and B. Identify the elements which are common in the two lists A and B and return them in a sorted manner.For example

Sample Input : A = [5,1,3,4,4,5,6,7] B = [3,3,5,5, 1 ,7 ,2] Sample Output: [1,3,5,7]

In [10]:

```
## type your code here
A = [5, 1, 3, 4, 4, 5, 6, 7]
B = [3, 3, 5, 5, 1, 7, 2]
list(set(A).intersection(B))
```

Out[10]: [1,

3, 5, 7]

4. Create a SORTED list of all values from the dictionary input_dict = {'Jack Dorsey' : 'Twitter' , 'Tim Cook' : 'Apple', 'Jeff Bezos' : 'Amazon' , 'Mukesh Ambani' : 'RJIO'}

Sample Output: ['Amazon', 'Apple', 'RJIO', 'Twitter']

In [11]:

```
## type your code here
input_dict = {'Jack Dorsey' : 'Twitter' , 'Tim Cook' : 'Apple', 'Jeff Bezos' : 'Amazon' , 'Mukesh Ambani' : 'RJIO '}
l=[]
for i in input_dict:
    l.append(input_dict[i])
l.sort()
print(l)
```

```
['Amazon', 'Apple', 'RJIO', 'Twitter']
```

5. Write code to fetch the profession of the employee with Employee id entered by the user from an employee input given in the form of a dictionary where key represent employ id and values represent the name, age, and profession (in the same order).

Given Dictionary: Employee_data = { 101:['Shiva', 24, 'Content Strategist'] ,102:['Udit',25,'Content Strategist'], 103:['Sonam', 28,'Sr Manager'], 104:['Ansari',29,'Product Lead'],105:['Huzefa',32,'Project Manager']} Sample output: 'Product Lead'

In [24]:

```
## type your code here
Employee_data = { 101:['Shiva', 24, 'Content Strategist'] ,102:['Udit',25,'Content Strategist'], 103:['Sonam', 28
,'Sr Manager'], 104:['Ansari',29,'Product Lead' ],105:['Huzefa',32,'ProjectManager' ]} a=int(input("Enter
Employee Id"))
if(a==101):
    print("Profession of Employee 101 is Content Strategist")
elif(a==102):
    print("Profession of Employee 102 is Content Strategist")
elif(a==103):
    print("Profession of Employee 103 is Sr Manager")
elif(a==104):
    print("Profession of Employee 104 is Product Lead")
elif(a==105):
    print("Profession of Employee 105 is Product Manager")
elif(a!=101 or a!=102 or a!=103 or a!=104 or a!=105): print("NA")
```

```
Enter Employee Id104
Profession of Employee 104 is Product Lead
```

6. If Z = {1, 3, 5, 7, 9, 11, 13}, then which of the following are subsets of U.

B = {2, 4} A = {0} C = {1, 9, 5, 13} D = {5, 11, 1} E = {13, 7, 9, 11, 5, 3, 1} F = {2, 3, 4, 5} HINT: C, D and E are the subsets of U.

In [13]:

```
## type your code here
Z = {1, 3, 5, 7, 9, 11, 13}
A = {0}
B = {2, 4}
C = {1, 9, 5, 13}
D = {5, 11, 1}
E = {13, 7, 9, 11, 5, 3, 1}
F = {2, 3, 4, 5}

print("Is A a subset of Z?:",A.issubset(Z))
print("Is B a subset of Z?:",B.issubset(Z))
print("Is C a subset of Z?:",C.issubset(Z))
print("Is D a subset of Z?:",D.issubset(Z))
print("Is E a subset of Z?:",E.issubset(Z))
```

```
Is A a subset of Z?: False Is B
a subset of Z?: False Is C a
subset of Z?: True Is D a subset
of Z?: True Is E a subset of Z?:
True Is F a subset of Z?: False
```

7. Let A and B be two finite sets such that n(A) = 20, n(B) = 28 and n(A ∪ B) = 36, find n(A ∩ B).

HINT: Use the formula n(A ∪ B) = n(A) + n(B) - n(A ∩ B). then n(A∩B) = n(A) + n(B) - n(A ∪B) = 20 + 28 - 36 = 48 - 36 = 12

In [14]:

```
## type your code here
A = frozenset([1, 2, 3, 4, 5, 6, 7, 8, 9, 0, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20])
B = frozenset([8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35])
na = len(A)
nb = len(B)
C = A.union(B) nc
= len(C) soln =
na+nb-nc
```

12

8. In a group of 60 people, 27 like cold drinks and 42 like hot drinks and each person likes at least one of the two drinks. How many like both coffee and tea?

In [15]:

```
## type your code here
A=27
B=42
C=60
print("n(A)=27")
print("n(B)=42")
print("n(A∪B)=60")
soln=A+B-C
```

n(A)=27
n(B)=42
n(A∪B)=60
9

9. In a competition, a school awarded medals in different categories. 36 medals in dance, 12 medals in dramatics and 18 medals in music. If these medals went to a total of 45 persons and only 4 persons got medals in all the three categories, how many received medals in exactly two of these categories?

In [16]:

```
## type your code here

A=36
B=12
C=18
E=45
D=4
print("n(A)=36")
print("n(B)=12")
print("n(C)=18") print("n(A
∪ B ∪C)=45") print("n(A
∩ B ∩ C)=4")
soln=(A+B+C+D-E)-12
```

n(A)=36
n(B)=12
n(C)=18
n(A ∪ B ∪C)=45
n(A ∩ B ∩ C)=4
13

10. In a group of 100 persons, 72 people can speak English and 43 can speak French. How many can speak English only? How many can speak French only and how many can speak both English and French?

In [17]:

```
## type your code here
A=72
B=43
C=100
print("n(A)=72")
print("n(B)=43")
print("n(A∪B)=100")
soln1=A+B-C
print("The no of people who speak both French and English:",soln1) soln2=A-soln1
print("The no of people who speak English only:",soln2) soln3=B-
soln1
print("The no of people who speak French only:",soln3)
```

```
n(A)=72
n(B)=43
n(A∪B)=100
The no of people who speak both French and English: 15 The no of
people who speak English only: 57
The no of people who speak French only: 28
```

In [ ]: