Lab7. Dictionaries in Python

In [ ]:
```
Name:P.Asha Belcilda
Roll No:225229104
```

Question1. Write a program for Fruit Inventory Management. ¶

```
1. Create a dictionary fruits with fruit name as key and quantity available as values. There
are 20 apples, 50 bananas, 100 oranges. Then, print outputs for the following queries.
```

In [3]:
```
fruits={'apples':20,'bananas':50,'oranges':100}
```

```
2. Show the entire dictionary fruits (Print output as apples -> 20, bananas -> 50, etc)
```

In [18]:
```
print(fruits)
```

```
{'apples': 20, 'bananas': 50, 'oranges': 100}
```

```
3. How many bananas are there?
```

In [19]:
```
print("There are",fruits.get('bananas'),"bananas")
```

```
There are 50 bananas
```

```
4. How many items in the dictionary?
```

In [20]:
```
print("No. of keys:",len(fruits))
```

```
No. of keys: 3
```

```
5. Does graphs available in the dictionary?
```

In [21]:
```
if 'graphs' in fruits:
    print("Graphs is Available")
else :
    print("Graphs is NOT Available")
```

```
Graphs is NOT Available
```

6. Does pears exists in the dictionary?. If so, return its quantity, otherwise, add 10 pears to
dictionary.

In [22]:
```
if 'pears' in fruits:
    print("Pears is Available")
else :
    fruits['pears']=10
    print(fruits)
```

```
{'apples': 20, 'bananas': 50, 'oranges': 100, 'pears': 10}
```

7. Show all fruit names in ascending order (Iterate using for loop)

In [23]:
```
print("Asending Order :")
for i in sorted(fruits):
    print(i)
```

```
Asending Order :
apples
bananas
oranges
pears
```

8. Show all fruits in descending order of quantities

In [24]:
```
print("Desending Order :")
for i in reversed(fruits):
    print(i)
```

```
Desending Order :
pears
oranges
bananas
apples
```

9. Remove pears from the dictionary.

In [29]:
```
fruits={'apples': 20, 'bananas': 50, 'oranges': 100, 'pears': 10}
del fruits["pears"]
print(fruits)
```

```
{'apples': 20, 'bananas': 50, 'oranges': 100}
```

10. Develop a function show() that displays fruit name and quantity (Use .format() for pretty
printing)

In [4]:
```
def show():
    print(f'{fruits}')
show()
```

```
{'apples': 20, 'bananas': 50, 'oranges': 100}
```

```
11. Develop a function add_fruit(name, quantity) that receives fruit name and
quantity as
input and increases the quantity of the fruit. Then, display the current
inventory by calling
show().
```

```
12. Now, add 40 apples to inventory by calling add_fruit(name, quantity)
```

In [5]:
```
def add_fruits(fruits,name,quantity):
    fruits[name]=fruits.get(name,0)+quantity
add_fruits(fruits,'apples',40)
print(fruits)
```

```
{'apples': 60, 'bananas': 50, 'oranges': 100}
```

```
13. Now, add 100 bananas to inventory, by calling add_fruit(name, quantity)
```

In [6]:
```
add_fruits(fruits,'bananas',100)
print(fruits)
```

```
{'apples': 60, 'bananas': 150, 'oranges': 100}
```

```
14. Now, show the current inventory, by calling show()
```

In [7]:
```
show()
```

```
{'apples': 60, 'bananas': 150, 'oranges': 100}
```

```
15. Write the inventory fruits onto a file. (Use Pickle for file writing and
reading)
16. Now, open Pickle file and display the inventory.
```

In [8]:
```
import pickle
fruits={'apples':60,'bananas':150,'oranges':100}
file=open("mypicklefile","wb")
pickle.dump(fruits,file)
file.close()
```

In [9]:
```
import pickle
frut_prc=open("mypicklefile","rb")
fruits=pickle.load(frut_prc)
print(fruits)
```

```
{'apples': 60, 'bananas': 150, 'oranges': 100}
```

Question2. Write a program for Telephone Directory Management

```
1. Create an empty dictionary called customers, where name is a key and
contacts is a list
of contacts such as phoneno and email ID for each customer.
```

```
2. Ask user to enter name and his contacts for N customers. Add them to
dictionary
customers. Stop reading when user types “done”.
```

In [11]:
```
customers={}
n=int(input("No. of customers:"))
for i in range(n):
    a=input("Name: ")
    b=int(input("Phone No.: "))
    c=input("Emailid: ")
    d=input("Continue or '(Type Done)' Over: ")
    if d=='done':
        break
    key=a
    contacts=[b,c]
    customers[key]=contacts
    print('\n',customers)
```

```
No. of customers:2
Name: Asha
Phone No.: 7339477130
Emailid: ashacato14@gmail.com
Continue or '(Type Done)' Over: continue

 {'Asha': [7339477130, 'ashacato14@gmail.com']}
Name: Ambrose
Phone No.: 9787668188
Emailid: ambrose06@gmail.com
Continue or '(Type Done)' Over: over

 {'Asha': [7339477130, 'ashacato14@gmail.com'], 'Ambrose': [9787668188, 'ambros
e06@gmail.com']}
```

```
3. Show the contacts for customer “rex”. If not exists, print message “Contacts
not exists..”
```

In [5]:
```
if "rex" in customers:
    print(customers.get("rex"))
else:
    print("Not exists")
```

```
Not exists
```

4. Add a new customer with name “rex”, phone number 9942002764 and email id rajkumar@bhc.edu

In [12]:
```
customers.update({"rex":[9942002764,"rajkumar@bhc.edu"]})
print(customers)
```

```
{'Asha': [7339477130, 'ashacato14@gmail.com'], 'Ambrose': [9787668188, 'ambrose
06@gmail.com'], 'rex': [9942002764, 'rajkumar@bhc.edu']}
```

5. Show all customers both name and contacts. (Use items() method, unpack it and print
inside for loop)
6. Show all customer contacts (Iterate using for loop)

In [13]:
```
for i in customers:
    print("Name:",i,"\t","Contacts:",customers[i])
```

```
Name: Asha       Contacts: [7339477130, 'ashacato14@gmail.com']
Name: Ambrose    Contacts: [9787668188, 'ambrose06@gmail.com']
Name: rex        Contacts: [9942002764, 'rajkumar@bhc.edu']
```

7. Show all customer names in alphabetical order
8. How many customers are there in your dictionary?

In [9]:
```
for i in sorted(customers):
    print(i)
print()
print("Count of Customers:",len(customers))
```

```
Asha
rex

Count of Customers: 2
```

9. Remove customer “rex” from dictionary customers

In [14]:
```
del customers["rex"]
print(customers)
```

```
{'Asha': [7339477130, 'ashacato14@gmail.com'], 'Ambrose': [9787668188, 'ambrose
06@gmail.com']}
```