inventory-management-json

August 24, 2023

[ ]:
```
import json

record = {1001: {'Name': "5 Star"          , "Price" : 10 , "Qn" : 200},
          1002: {'Name': "Bar-One"         , "Price" : 20 , "Qn" : 100 },
          1003: {'Name': "Candy"           , "Price" : 2  , "Qn" : 1000},
          1004: {'Name': "Chocolate Cake"  , "Price" : 550, "Qn" : 8 },
          1005: {'Name': "Blueberry Cake"  , "Price" : 650, "Qn" : 5 }}
```

[ ]:
```
record
```

[ ]:
```
{1001: {'Name': '5 Star', 'Price': 10, 'Qn': 200},
 1002: {'Name': 'Bar-One', 'Price': 20, 'Qn': 100},
 1003: {'Name': 'Candy', 'Price': 2, 'Qn': 1000},
 1004: {'Name': 'Chocolate Cake', 'Price': 550, 'Qn': 8},
 1005: {'Name': 'Blueberry Cake', 'Price': 650, 'Qn': 5}}
```

[ ]:
```
print(record[1004]["Name"])
print(record[1004]["Price"])
print(record[1004]["Qn"])
```

```
Chocolate Cake
550
8
```

Inventory Management System - Generating Bill

[ ]:
```
print("--------------------MENU---------------------")
for key in record.keys():
    print(key, record[key]['Name'], record[key]['Price'], record[key]['Name'])
print("---------------------------------------------")
print('')

ui_pr = int(input("Enter product ID : "))
ui_qn = int(input("Enter Quantiry   : "))

print("--------------------BILL-----------------------")
print('')
```

```
print("Name      : ", record[ui_pr]["Name"])
print("Price (Rs): ", record[ui_pr]["Price"])
print("Quantity  : ", ui_qn)
print("------------------------------------------")
print("Billing   : ", ui_qn * record[ui_pr]["Price"], "Rs")
print("------------------------------------------")
```

```
--------------------MENU--------------------
1001 5 Star 10 5 Star
1002 Bar-One 20 Bar-One
1003 Candy 2 Candy
1004 Chocolate Cake 550 Chocolate Cake
1005 Blueberry Cake 650 Blueberry Cake
------------------------------------------

Enter product ID : 1004
Enter Quantiry   : 4
--------------------BILL------------------------

Name      :  Chocolate Cake
Price (Rs):  550
Quantity  :  4
------------------------------------------
Billing   :  2200 Rs
------------------------------------------
```

Inventory Management System - Updating Inventory

[ ]:
```
print("--------------------MENU--------------------")
for key in record.keys():
    print(key, record[key]['Name'], record[key]['Price'], record[key]['Name'])
print("------------------------------------------")
print('')

ui_pr = int(input("Enter product ID : "))
ui_qn = int(input("Enter Quantiry   : "))

print("------------------------------------------")
print('')

print("Name      : ", record[ui_pr]["Name"])
print("Price (Rs): ", record[ui_pr]["Price"])
print("Quantity  : ", ui_qn)
print("------------------------------------------")
print("Billing   : ", ui_qn * record[ui_pr]["Price"], "Rs")
print("------------------------------------------")

record[ui_pr]['Qn'] = record[ui_pr]['Qn'] - ui_qn
```

```
print('')
print("-----------------------------------------------")
print("  Thanks for your order, Inventory Updated!  ")
print("-----------------------------------------------")
```

```
--------------------MENU--------------------
1001 5 Star 10 5 Star
1002 Bar-One 20 Bar-One
1003 Candy 2 Candy
1004 Chocolate Cake 550 Chocolate Cake
1005 Blueberry Cake 650 Blueberry Cake
----------------------------------------------

Enter product ID : 1002
Enter Quantiry   : 2
----------------------------------------------

Name      :  Bar-One
Price (Rs):  20
Quantity  :  2
----------------------------------------------
Billing   :  40 Rs
----------------------------------------------

----------------------------------------------
  Thanks for your order, Inventory Updated!
----------------------------------------------
```

Inventory Management System - Saving Record on JSON

[ ]:
```
import json

record = {1001: {'Name': "5 Star"         , "Price" : 10 , "Qn" : 200},
          1002: {'Name': "Bar-One"        , "Price" : 20 , "Qn" : 100 },
          1003: {'Name': "Candy"          , "Price" : 2  , "Qn" : 1000},
          1004: {'Name': "Chocolate Cake" , "Price" : 550, "Qn" : 8 },
          1005: {'Name': "Blueberry Cake" , "Price" : 650, "Qn" : 5 }}



print("--------------------MENU--------------------")
for key in record.keys():
    print(key, record[key]['Name'], record[key]['Price'], record[key]['Name'])
print("----------------------------------------------")
print('')

ui_pr = int(input("Enter product ID : "))
```

```
ui_qn = int(input("Enter Quantiry   : "))

print("-------------------------------------------")
print('')

print("Name      : ", record[ui_pr]["Name"])
print("Price (Rs): ", record[ui_pr]["Price"])
print("Quantity  : ", ui_qn)
print("-------------------------------------------")
print("Billing   : ", ui_qn * record[ui_pr]["Price"], "Rs")
print("-------------------------------------------")

record[ui_pr]['Qn'] = record[ui_pr]['Qn'] - ui_qn

js = json.dumps(record)

fd = open('Record.json','w')
fd.write(js)
fd.close()

print('')
print("-------------------------------------------")
print("  Thanks for your order, Inventory Updated!  ")
print("-------------------------------------------")
```

```
--------------------MENU---------------------
1001 5 Star 10 5 Star
1002 Bar-One 20 Bar-One
1003 Candy 2 Candy
1004 Chocolate Cake 550 Chocolate Cake
1005 Blueberry Cake 650 Blueberry Cake
-----------------------------------------

Enter product ID : 1005
Enter Quantiry   : 2
-----------------------------------------

Name      :  Blueberry Cake
Price (Rs):  650
Quantity  :  2
-----------------------------------------
Billing   :  1300 Rs
-----------------------------------------

-----------------------------------------
  Thanks for your order, Inventory Updated!
-----------------------------------------
```

[ ]:
```
type(record)
```

[ ]:
```
dict
```

[ ]:
```
js
```

[ ]:
```
'{"1001": {"Name": "5 Star", "Price": 10, "Qn": 200}, "1002": {"Name": "Bar-
One", "Price": 20, "Qn": 100}, "1003": {"Name": "Candy", "Price": 2, "Qn":
1000}, "1004": {"Name": "Chocolate Cake", "Price": 550, "Qn": 8}, "1005":
{"Name": "Blueberry Cake", "Price": 650, "Qn": 3}}'
```

[ ]:
```
type(js)
```

[ ]:
```
str
```

Inventory Management System - Loading Record from JSON

[ ]:
```
import json

fd = open('Record.json','r')
js = fd.read()
fd.close()

record = json.loads(js)

print("--------------------MENU----------------------")
for key in record.keys():
    print(key, record[key]['Name'], record[key]['Price'], record[key]['Qn'])
print("----------------------------------------------")
print('')

ui_pr = str(input("Enter product ID : "))
ui_qn = int(input("Enter Quantiry   : "))

print("----------------------------------------------")
print('')


print("Name      : ", record[ui_pr]["Name"])
print("Price (Rs): ", record[ui_pr]["Price"])
print("Quantity  : ", ui_qn)
print("----------------------------------------------")
print("Billing   : ", ui_qn * record[ui_pr]["Price"], "Rs")
print("----------------------------------------------")

record[ui_pr]['Qn'] = record[ui_pr]['Qn'] - ui_qn
```

```
js = json.dumps(record)

fd = open('Record.json','w')
fd.write(js)
fd.close()

print('')
print("---------------------------------------------")
print("  Thanks for your order, Inventory Updated!  ")
print("---------------------------------------------")
```

```
--------------------MENU---------------------
1001 5 Star 10 200
1002 Bar-One 20 100
1003 Candy 2 1000
1004 Chocolate Cake 550 8
1005 Blueberry Cake 650 3
---------------------------------------------

Enter product ID : 1005
Enter Quantiry   : 5
---------------------------------------------

Name       :  Blueberry Cake
Price (Rs):  650
Quantity   :  5
---------------------------------------------
Billing    :  3250 Rs
---------------------------------------------

---------------------------------------------
  Thanks for your order, Inventory Updated!
---------------------------------------------
```

[ ]:
```
record
```

[ ]:
```
{'1001': {'Name': '5 Star', 'Price': 10, 'Qn': 200},
 '1002': {'Name': 'Bar-One', 'Price': 20, 'Qn': 100},
 '1003': {'Name': 'Candy', 'Price': 2, 'Qn': 1000},
 '1004': {'Name': 'Chocolate Cake', 'Price': 550, 'Qn': 8},
 '1005': {'Name': 'Blueberry Cake', 'Price': 650, 'Qn': -2}}
```

Inventory Management System JSON - Adding Functionalities

[ ]:
```
import json

ch = 'Y'
```

```
fd = open('Record.json','r')
js = fd.read()
fd.close()

record = json.loads(js)

print("--------------------MENU---------------------")
for key in record.keys():
    print(key, record[key]['Name'], record[key]['Price'], record[key]['Qn'])
print("---------------------------------------------")
print('')

ui_pr = str(input("Enter product ID : "))
ui_qn = int(input("Enter Quantiry   : "))

print("---------------------------------------------")
print('')

if (record[ui_pr]['Qn'] >= ui_qn):

    print("Name      : ", record[ui_pr]["Name"])
    print("Price (Rs): ", record[ui_pr]["Price"])
    print("Quantity  : ", ui_qn)
    print("-----------------------------------------------")
    print("Billing   : ", ui_qn * record[ui_pr]["Price"], "Rs")
    print("-----------------------------------------------")

    record[ui_pr]['Qn'] = record[ui_pr]['Qn'] - ui_qn

else:

    print("Sorry, We're not having enough quanity of product in our Inventory.")
    print("We're only having " + str(record[ui_pr]['Qn']) + " quantity.")
    print("-----------------------------------------------")

    ch == str(input("Press Y to purchase: "))

    if(ch == "Y" or ch == 'y'):

        print("-----------------------------------------------")
        print("Name      : ", record[ui_pr]["Name"])
        print("Price (Rs): ", record[ui_pr]["Price"])
        print("Quantity  : ", record[ui_pr]['Qn'])
        print("-----------------------------------------------")
        print("Billing   : ", record[ui_pr]['Qn'] * record[ui_pr]["Price"],␣
 ↪"Rs")
        print("-----------------------------------------------")
```

```
        record[ui_pr]['Qn'] = 0

    else:
        print("Thanks!")

js = json.dumps(record)

fd = open('Record.json','w')
fd.write(js)
fd.close()

print('')
print("--------------------------------------------")
print("  Thanks for your order, Inventory Updated!  ")
print("--------------------------------------------")
```

```
--------------------MENU--------------------
1001 5 Star 10 200
1002 Bar-One 20 100
1003 Candy 2 1000
1004 Chocolate Cake 550 8
1005 Blueberry Cake 650 -2
--------------------------------------------

Enter product ID : 1004
Enter Quantiry   : 10
--------------------------------------------

Sorry, We're not having enough quanity of product in our Inventory.
We're only having 8 quantity.
--------------------------------------------
Press Y to purchase: y
--------------------------------------------
Name      :  Chocolate Cake
Price (Rs):  550
Quantity  :  8
--------------------------------------------
Billing   :  4400 Rs
--------------------------------------------

--------------------------------------------
  Thanks for your order, Inventory Updated!
--------------------------------------------
```

[ ]:
```
record
```

```
[ ]: {'1001': {'Name': '5 Star', 'Price': 10, 'Qn': 200},
      '1002': {'Name': 'Bar-One', 'Price': 20, 'Qn': 100},
      '1003': {'Name': 'Candy', 'Price': 2, 'Qn': 1000},
      '1004': {'Name': 'Chocolate Cake', 'Price': 550, 'Qn': 0},
      '1005': {'Name': 'Blueberry Cake', 'Price': 650, 'Qn': -2}}
```

Generating Sales Structure

```
[ ]: import json
     import time
     ch = 'Y'
     fd = open('Record.json','r')
     js = fd.read()
     fd.close()

     record = json.loads(js)

     print("--------------------MENU---------------------")
     for key in record.keys():
         print(key, record[key]['Name'], record[key]['Price'], record[key]['Qn'])
     print("---------------------------------------------")
     print('')


     ui_name = str(input("Enter your name    : "))
     ui_mail = str(input("Enter Mail ID      : "))
     ui_ph   = str(input("Enter Phone No     :  "))
     ui_pr   = str(input("Enter product ID   : "))
     ui_qn   = int(input("Enter Quantity     : "))

     print("---------------------------------------------")
     print('')


     if (record[ui_pr]['Qn'] >= ui_qn):

         print("Name      : ", record[ui_pr]["Name"])
         print("Price (Rs): ", record[ui_pr]["Price"])
         print("Quantity  : ", ui_qn)
         print("---------------------------------------------")
         print("Billing   : ", ui_qn * record[ui_pr]["Price"], "Rs")
         print("---------------------------------------------")

         record[ui_pr]['Qn'] = record[ui_pr]['Qn'] - ui_qn
```

```
    sale =␣
↪'1'+","+ui_name+","+ui_mail+","+ui_ph+","+ui_pr+","+record[ui_pr]["Name"]+","+str(ui_qn)+",
↪* record[ui_pr]["Price"])+","+time.ctime()

else:

    print("Sorry, We're not having enough quanity of product in our Inventory.")
    print("We're only having " + str(record[ui_pr]['Qn']) + " quantity.")
    print("-----------------------------------------------")

    ch == str(input("Press Y to purchase: "))

    if(ch == "Y" or ch == 'y'):

        print("-----------------------------------------------")
        print("Name      : ", record[ui_pr]["Name"])
        print("Price (Rs): ", record[ui_pr]["Price"])
        print("Quantity  : ", record[ui_pr]['Qn'])
        print("-----------------------------------------------")
        print("Billing   : ", record[ui_pr]['Qn'] * record[ui_pr]["Price"],␣
↪"Rs")
        print("-----------------------------------------------")

        record[ui_pr]['Qn'] = 0

        sale =␣
↪'1'+","+ui_name+","+ui_mail+","+ui_ph+","+ui_pr+","+record[ui_pr]["Name"]+","+str(record[ui
↪* record[ui_pr]["Price"])+","+time.ctime()

    else:

      print("Sorry, We're not having enough quanity of product in our Inventory.
↪")
    print("We're only having " + str(record[ui_pr]['Qn']) + " quantity.")
    print("-----------------------------------------------")

    ch == str(input("Press Y to purchase: "))

    if(ch == "Y" or ch == 'y'):

        print("-----------------------------------------------")
        print("Name      : ", record[ui_pr]["Name"])
        print("Price (Rs): ", record[ui_pr]["Price"])
        print("Quantity  : ", record[ui_pr]['Qn'])
        print("-----------------------------------------------")
        print("Billing   : ", record[ui_pr]['Qn'] * record[ui_pr]["Price"],␣
↪"Rs")
```

```
        print("-------------------------------------------")

        record[ui_pr]['Qn'] = 0

        sale =␣
 ↪'1'+","+ui_name+","+ui_mail+","+ui_ph+","+ui_pr+","+record[ui_pr]["Name"]+","+str(record[ui
 ↪* record[ui_pr]["Price"])+","+time.ctime()

    else:
        print("Thanks!")

js = json.dumps(record)

fd = open('Record.json','w')
fd.write(js)
fd.close()

print('')
print("-------------------------------------------")
print("  Thanks for your order, Inventory Updated!  ")
print("-------------------------------------------")
```

```
--------------------MENU---------------------
1001 5 Star 10 200
1002 Bar-One 20 100
1003 Candy 2 1000
1004 Chocolate Cake 550 0
1005 Blueberry Cake 650 -2
-----------------------------------------

Enter your name    : ashish
Enter Mail ID      : ashish2939@gmail.com
Enter Phone No     :  2989839
Enter product ID   : 1004
Enter Quantity     : 3
-----------------------------------------

Sorry, We're not having enough quanity of product in our Inventory.
We're only having 0 quantity.
-----------------------------------------
Press Y to purchase: y
-----------------------------------------
Name       :  Chocolate Cake
Price (Rs):  550
Quantity   :  0
-----------------------------------------
Billing    :  0 Rs
```

```
-------------------------------------------
We're only having 0 quantity.
-------------------------------------------
Press Y to purchase: y
-------------------------------------------
Name      :  Chocolate Cake
Price (Rs):  550
Quantity  :  0
-------------------------------------------
Billing   :  0 Rs
-------------------------------------------


-------------------------------------------
  Thanks for your order, Inventory Updated!
-------------------------------------------
```

[ ]:
```
sale
```

[ ]:
```
'1,ashish,ashish2939@gmail.com,2989839,1004,Chocolate Cake,0,550,0,Wed Aug 23
23:37:24 2023'
```

[ ]:
```
time.ctime()
```

[ ]:
```
'Wed Aug 23 23:38:17 2023'
```

Generating Sales file

[ ]:

[ ]:
```
import json
import time  # Don't forget to import the 'time' module

ch = 'Y'
fd = open('Record.json', 'r')
js = fd.read()
fd.close()

record = json.loads(js)

print("--------------------MENU---------------------")
for key in record.keys():
    print(key, record[key]['Name'], record[key]['Price'], record[key]['Qn'])
print("-------------------------------------------")
print('')

ui_name = input("Enter your name    : ")  # Use input() instead of raw_input()␣
 ↪in Python 3
ui_mail = input("Enter Mail ID      : ")
```

```
ui_ph = input("Enter Phone No     : ")
ui_pr = input("Enter product ID   : ")
ui_qn = int(input("Enter Quantity     : "))  # Convert input to int

print("-----------------------------------------")
print('')

if record.get(ui_pr) is not None and record[ui_pr]['Qn'] >= ui_qn:  # Check if␣
 ↪product exists and has enough quantity

    print("Name      : ", record[ui_pr]["Name"])
    print("Price (Rs): ", record[ui_pr]["Price"])
    print("Quantity  : ", ui_qn)
    print("-----------------------------------------")
    print("Billing   : ", ui_qn * record[ui_pr]["Price"], "Rs")
    print("-----------------------------------------")

    record[ui_pr]['Qn'] -= ui_qn  # Update product quantity

    sale = ui_name + "," + ui_mail + "," + ui_ph + "," + ui_pr + "," +␣
 ↪record[ui_pr]["Name"] + "," + str(ui_qn) + "," + str(record[ui_pr]["Price"])␣
 ↪+ "," + str(ui_qn * record[ui_pr]["Price"]) + "," + time.ctime() + "\n"

else:

    print("Sorry, We don't have enough quantity of the product in our Inventory.
 ↪")
    print("We only have " + str(record[ui_pr]['Qn']) + " quantity.")
    print("-----------------------------------------")

    ch = input("Press Y to purchase: ")  # Use input() instead of raw_input()␣
 ↪in Python 3

    if ch == "Y" or ch == 'y':

        print("-----------------------------------------")
        print("Name      : ", record[ui_pr]["Name"])
        print("Price (Rs): ", record[ui_pr]["Price"])
        print("Quantity  : ", record[ui_pr]['Qn'])
        print("-----------------------------------------")
        print("Billing   : ", record[ui_pr]['Qn'] * record[ui_pr]["Price"],␣
 ↪"Rs")
        print("-----------------------------------------")

        record[ui_pr]['Qn'] = 0
```

```
        sale = ui_name + "," + ui_mail + "," + ui_ph + "," + ui_pr + "," +␣
 ↪record[ui_pr]["Name"] + "," + str(record[ui_pr]['Qn']) + "," +␣
 ↪str(record[ui_pr]["Price"]) + "," + str(record[ui_pr]['Qn'] *␣
 ↪record[ui_pr]["Price"]) + "," + time.ctime() + "\n"
    else:
        print("Thanks!")

js = json.dumps(record)

fd = open('Record.json', 'w')
fd.write(js)
fd.close()

fd = open('Sales (3).txt', 'a')
fd.write(sale)
fd.close()

print('')
print("--------------------------------------------")
print("  Thanks for your order, Inventory Updated!  ")
print("--------------------------------------------")
```

```
--------------------MENU--------------------
1001 5 Star 10 200
1002 Bar-One 20 100
1003 Candy 2 1000
1004 Chocolate Cake 550 0
1005 Blueberry Cake 650 -2
--------------------------------------------

Enter your name    : ashish
Enter Mail ID      : 1004
Enter Phone No     : 3
Enter product ID   : 1001
Enter Quantity     : 3
--------------------------------------------

Name      :  5 Star
Price (Rs):  10
Quantity  :  3
--------------------------------------------
Billing   :  30 Rs
--------------------------------------------

--------------------------------------------
  Thanks for your order, Inventory Updated!
--------------------------------------------
```

conclusion

[ ]:
```
import json
import time

# Importing Inventory data from Record.json file
fd = open('Record.json','r')
js = fd.read()
fd.close()

# Converting String data to Dictionary
record = json.loads(js)

# Displaying Menu
print("--------------------MENU---------------------")
for key in record.keys():
    print(key, record[key]['Name'], record[key]['Price'], record[key]['Qn'])
print("---------------------------------------------")
print('')

# Taking Inputs from the user about their details and purchase
ui_name = str(input("Enter your name    : "))
ui_mail = str(input("Enter Mail ID      : "))
ui_ph   = str(input("Enter Phone No     : "))
ui_pr   = str(input("Enter product ID   : "))
ui_qn   = int(input("Enter Quantity     : "))

print("---------------------------------------------")
print('')

# If we're having equal or more quantity then the user wants
if (record[ui_pr]['Qn'] >= ui_qn):

    print("Name      : ", record[ui_pr]["Name"])
    print("Price (Rs): ", record[ui_pr]["Price"])
    print("Quantity  : ", ui_qn)
    print("-----------------------------------------------")
    print("Billing   : ", ui_qn * record[ui_pr]["Price"], "Rs")
    print("-----------------------------------------------")

    # Updating Inventory in Dictionary
    record[ui_pr]['Qn'] = record[ui_pr]['Qn'] - ui_qn

    # Generating CSV Transection Detail
    sale =␣
 ↪ui_name+","+ui_mail+","+ui_ph+","+ui_pr+","+record[ui_pr]["Name"]+","+str(ui_qn)+","+str(re
 ↪* record[ui_pr]["Price"])+","+time.ctime()+"\n"
```

```
# If we're less quantity then the user wants
else:

    print("Sorry, We're not having enough quanity of product in our Inventory.")
    print("We're only having " + str(record[ui_pr]['Qn']) + " quantity.")
    print("-----------------------------------------------")

    ch == str(input("Press Y to purchase: "))

    # If user wants to purchase the whole quantity for that product
    if(ch == "Y" or ch == 'y'):

        print("-----------------------------------------------")
        print("Name      : ", record[ui_pr]["Name"])
        print("Price (Rs): ", record[ui_pr]["Price"])
        print("Quantity  : ", record[ui_pr]['Qn'])
        print("-----------------------------------------------")
        print("Billing   : ", record[ui_pr]['Qn'] * record[ui_pr]["Price"],␣
↪"Rs")
        print("-----------------------------------------------")

        # Updating Inventory in Dictionary
        record[ui_pr]['Qn'] = 0

        # Generating CSV Transection Detail
        sale =␣
↪ui_name+","+ui_mail+","+ui_ph+","+ui_pr+","+record[ui_pr]["Name"]+","+str(record[ui_pr]['Qn
↪* record[ui_pr]["Price"])+","+time.ctime()+"\n"

    # If user pressed anything except Y or y
    else:
        print("Thanks!")

# Converting Inventory Dictionary to String
js = json.dumps(record)

# Updating Inventory and Saving in to my Records.json
fd = open('Record.json','w')
fd.write(js)
fd.close()

# Adding Transection on Sales File
fd = open('Sales (3).txt','a')
fd.write(sale)
fd.close()
```

```
print('')
print("-------------------------------------------")
print("  Thanks for your order, Inventory Updated!  ")
print("-------------------------------------------")
```

```
--------------------MENU---------------------
1001 5 Star 10 197
1002 Bar-One 20 100
1003 Candy 2 1000
1004 Chocolate Cake 550 0
1005 Blueberry Cake 650 -2
-----------------------------------------

Enter your name    : shivam
Enter Mail ID      : shiv200292!@gmail.com
Enter Phone No     : 8983039
Enter product ID   : 1003
Enter Quantity     : 2
-----------------------------------------

Name      :  Candy
Price (Rs):  2
Quantity  :  2
-----------------------------------------
Billing   :  4 Rs
-----------------------------------------

-----------------------------------------
  Thanks for your order, Inventory Updated!
-----------------------------------------
```

[ ]:
```
dict={

    100 : {'Name' : 'GFG'},
    101 : 'Not available',
    102 : {'RollNO' : 1}
}
```