In [5]:
```python
import mysql.connector
import pandas as pd
def add_product():
    cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',da
    cursor=cnx.cursor()
    ICode=input("Enter Item Code:")
    Icmp=input("Enter Company Name:")
    IName = input("Enter the name of the product: ")
    IName=IName.upper()
    IPrice = int(input("Enter the price of the product: "))
    IStock = int(input("Enter the stock of the product: "))
    DoP=input("Enter Date of purchase (yy/mm/dd):")
    cursor.execute('Insert into Items values("%s","%s","%s",%s,%s,"%s")'%(ICode,IN
    cnx.commit()
    cursor.close()
    cnx.close()
    print("Product inserted.")
def display_product():
    cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',da
    cursor=cnx.cursor()
    query=("SELECT*FROM Items")
    cursor.execute(query)
    item_no=[]
    item_name=[]
    item_cmp=[]
    item_price=[]
    item_stock=[]
    item_dd=[]
    for(Ino,Iname,Icmp,price,stock,dd)in cursor:
        item_no.append(Ino)
        item_name.append(Iname)
        item_cmp.append(Icmp)
        item_price.append(price)
        item_stock.append(stock)
        item_dd.append(dd)
    cnx.commit()
    cursor.close()
    cnx.close()
    data={"Item Code":item_no,"Item Name":item_name,"Item Company":item_cmp,"Price
    df=pd.DataFrame(data)
    if df.empty:
        return "NO RECORDS AVAILABLE"
    else:
        return df
def delete_product():
    name = input("Enter the name of the product to delete: ")
    name=name.upper()
    cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',da
    cursor=cnx.cursor()
    qry=("DELETE FROM Items where IName= %s")
    del_rec=(name,)
    cursor.execute(qry,del_rec)
    cnx.commit()
    cursor.close()
    cnx.close()
    print("Record deleted successfully.")
def update_product():
    cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',da
    cursor=cnx.cursor()
    name = input("Enter the name of the product to update: ")
    name=name.upper()
    print("Enter New data.")
```

```python
    Ino=input("Enter Item code:")
    Iname=input("Enter Item Name:")
    Iname=Iname.upper()
    Icmp=input("Enter Company Name:")
    price=int(input("Enter Item Price:"))
    qty=int(input("Enter Available stock:"))
    print("Enter Date of purchase(date/month/year):")
    dd=input("Enter date:")
    qry=('update Items set ICode=%s,IName=%s,ICmp=%s,IPrice=%s,IQty=%s,DoP=%s where
    data=(Ino,Iname,Icmp,price,qty,dd,name)
    cursor.execute(qry,data)
    cnx.commit()
    cursor.close()
    cnx.close()
def search_product():
    cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',dat
    cursor=cnx.cursor()
    Ino=input("Enter item no to be searched:")
    qry=("select*from Items where Icode=%s")
    rec_srch=(Ino,)
    cursor.execute(qry,rec_srch)
    rec_count=0
    for(Ino,Iname,Icmp,price,qty,dd)in cursor:
        rec_count+=1
        print("==================================")
        print("Item Code:",Ino)
        print("Item Name:",Iname)
        print("Item Company:",Icmp)
        print("Item Price:",price)
        print("Total Stock:",qty)
        print("Date of Purchase:",dd)
        print("==================================")
        print(rec_count,"Record(s) found")
    cnx.commit()
    cursor.close()
    cnx.close()
def customer_add():
    cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',dat
    cursor=cnx.cursor()
    Name=input("Enter Customer Name:")
    Name=Name.upper()
    Score=int(input("Enter Customer Score:"))
    cursor.execute('Insert into customerscore values("%s",%s)'%(Name,Score))
    cnx.commit()
    cursor.close()
    cnx.close()
    print("Record inserted.")
def customer_display():
    cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',dat
    cursor=cnx.cursor()
    query=("SELECT*FROM customerscore")
    cursor.execute(query)
    cust_score=[]
    cust_name=[]
    for(name,score)in cursor:
        cust_name.append(name)
        cust_score.append(score)
    cnx.commit()
    cursor.close()
    cnx.close()
    data={"Customer Name":cust_name,"Customer Score":cust_score}
    df=pd.DataFrame(data)
    if df.empty:
        return "NO RECORDS AVAILABLE"
```

```python
        else:
            return df
    def customer_delete():
        cname = input("Enter Customer Name to delete: ")
        cname=cname.upper()
        cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',da
        cursor=cnx.cursor()
        qry=("DELETE FROM customerscore where Cname= %s")
        del_rec=(cname,)
        cursor.execute(qry,del_rec)
        cnx.commit()
        cursor.close()
        cnx.close()
        print("Record deleted successfully.")
    def customer_update():
        cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',da
        cursor=cnx.cursor()
        cname = input("Enter the customer name: ")
        cname=cname.upper()
        print("Enter New data.")
        name=input("Enter Customer Name: ")
        name=name.upper()
        score=int(input("Enter Customer Score"))
        qry=("update customerscore set Cname=%s,Cscore=%s where Cname=%s")
        data=(name,score,cname)
        cursor.execute(qry,data)
        cnx.commit()
        cursor.close()
        cnx.close()
    def customer_search():
        cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',da
        cursor=cnx.cursor()
        cname=input("Enter customer name to be searched:")
        cname=cname.upper()
        qry=("select*from customerscore where Cname=%s")
        rec_srch=(cname,)
        cursor.execute(qry,rec_srch)
        rec_count=0
        for(cname,cscore)in cursor:
            rec_count+=1
            print("==================================")
            print("Customer Name:",cname)
            print("Customer Score:",cscore)
            print("==================================")
            print(rec_count,"Record(s) found")
        cnx.commit()
        cursor.close()
        cnx.close()
    def calculate_bill():
        name_prod=[]
        price_prod=[]
        qty_prod=[]
        total_prod=[]
        total=0
        begin=True
        cnx=mysql.connector.connect(user='root',passwd='root@2004',host='localhost',da
        cursor=cnx.cursor()
        print("\n*************************************************************
        print("                              BILLING
        print("\n*************************************************************
        while begin==True:
            name = input("Enter the name of the product (or 'Done' to finish): ")
            name=name.upper()
            if name == 'DONE':
```

```python
                print("YOU ARE NOW EXITING FROM BILLING MENU")
                begin=False
            else:
                quantity = int(input("Enter the quantity: "))
                qry=("select IPrice from Items where IName=%s")
                rec_srch=(name,)
                cursor.execute(qry,rec_srch)
                for price in cursor:
                    if price==None:
                        print(f"{name} is not in the list of products.")
                    else:
                        price=price[0]
                        name_prod.append(name)
                        price_prod.append(price)
                        qty_prod.append(quantity)
                        total_prod.append(price*quantity)
                        a=price*quantity
                        total=total+a
        data={"PRODUCT NAME":name_prod,"PRICE":price_prod,"Quantity":qty_prod,"Amount"
        df=pd.DataFrame(data)
        print(df)
        print("\n****************")
        print("Total Amount ",total)
        print("****************")
        cnx.commit()
        cursor.close()
        cnx.close()
start=True
start_1=True
start_2=True
while start:
    print("\n***************************************************************")
    print("==================== Supermarket Management System ===================")
    print("====================           ABC SUPERMARKET         ===================")
    print("====================             MAIN MENU             ===================")
    print("***************************************************************")
    print("\n1. Items Menu")
    print("\n2. Customer Menu")
    print("\n3. Billing")
    print("\n0. Exit")
    ch=int(input("\nEnter your choice: "))
    if ch==1:
        print("\nYOU ARE IN ITEMS MENU")
        while start_1:
            print("\n1. Add product")
            print("\n2. Delete product")
            print("\n3. Update product")
            print("\n4. Search Product")
            print("\n5. Display products")
            print("\n0. Exit")
            ch = int(input("Enter your choice: "))
            if ch == 1:
                add_product()
            elif ch == 2:
                delete_product()
            elif ch == 3:
                update_product()
            elif ch == 4:
                search_product()
            elif ch == 5:
                print(display_product())
            elif ch == 0:
                print("YOU ARE NOW EXITING FROM ITEMS MENU.")
                start_1=False
```

```python
        else:
            print("Invalid choice")
    elif ch==2:
        print("\nYOU ARE IN CUSTOMER MENU")
        while start_2:
            print("\n1. Add customer details")
            print("\n2. Delete customer details")
            print("\n3. Update customer details")
            print("\n4. Search customer details")
            print("\n5. Display customer details")
            print("\n0. Exit")
            ch = int(input("\nEnter your choice: "))
            if ch == 1:
                customer_add()
            elif ch == 2:
                customer_delete()
            elif ch == 3:
                customer_update()
            elif ch == 4:
                customer_search()
            elif ch == 5:
                print(customer_display())
            elif ch == 0:
                print("YOU ARE NOW EXITING FROM ITEMS MENU")
                start_2=False
            else:
                print("Invalid choice.")
    elif ch==3:
        calculate_bill()
        print("\n***** THANK YOU, VISIT AGAIN :) *****")
    elif ch==0:
        print("ARE YOU SURE YOU WANT TO EXIT?\nYES  NO")
        ch=input()
        ch=ch.lower()
        if ch=='yes':
            print("YOU ARE EXITING FROM THE PROGRAM. HAVE A GOOD DAY <3")
            print("^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^")
            start=False
    else:
        print("Invalid choice :( \nTry again with another choice.")
```

```
    *********************************************************************
    ==================== Supermarket Management System ====================
    ====================       ABC SUPERMARKET       ====================
    ====================          MAIN MENU          ====================
    *********************************************************************
```

1. Items Menu

2. Customer Menu

3. Billing

0. Exit

Enter your choice: 1

YOU ARE IN ITEMS MENU

1. Add product

2. Delete product

3. Update product

4. Search Product

5. Display products

0. Exit
Enter your choice: 5

```
  Item Code    Item Name Item Company  Price  Stock(s) available  \
0     B345          BAG     Skybags   1640                   25
1     A201          PEN   Technotip     10                  200
2     B220     NOTEBOOK   Classmate     75                  600
3     A412   PENCIL BOX         xyz     35                   50
4     B221       PENCIL      Apsara      5                  200
5     E285        MANGO    Ellikkal     70                   50

   Date of Purchase
0       2023-04-21
1       2023-05-26
2       2023-05-20
3       2023-05-22
4       2023-05-26
5       2023-06-21
```

1. Add product

2. Delete product

3. Update product

4. Search Product

5. Display products

0. Exit
Enter your choice: 2
Enter the name of the product to delete: pencil box
Record deleted successfully.

1. Add product

2. Delete product

3. Update product

4. Search Product

5. Display products

0. Exit
Enter your choice: 5
```
   Item Code Item Name Item Company  Price  Stock(s) available Date of Purchase
0     B345       BAG      Skybags  1640                   25      2023-04-21
1     A201       PEN    Technotip    10                  200      2023-05-26
2     B220  NOTEBOOK    Classmate    75                  600      2023-05-20
3     B221    PENCIL       Apsara     5                  200      2023-05-26
4     E285     MANGO     Ellikkal    70                   50      2023-06-21
```

1. Add product

2. Delete product

3. Update product

4. Search Product

5. Display products

0. Exit
Enter your choice: 1
Enter Item Code:A400
Enter Company Name:xyz
Enter the name of the product: pencilbox
Enter the price of the product: 40
Enter the stock of the product: 35
Enter Date of purchase (yy/mm/dd):23/06/01
Product inserted.

1. Add product

2. Delete product

3. Update product

4. Search Product

5. Display products

0. Exit
Enter your choice: 5
```
   Item Code  Item Name Item Company  Price  Stock(s) available  \
0     B345        BAG      Skybags  1640                   25
1     A201        PEN    Technotip    10                  200
2     B220   NOTEBOOK    Classmate    75                  600
3     B221     PENCIL       Apsara     5                  200
4     E285      MANGO     Ellikkal    70                   50
5     A400   PENCILBOX        xyz    40                   35

   Date of Purchase
0       2023-04-21
1       2023-05-26
2       2023-05-20
3       2023-05-26
4       2023-06-21
5       2023-06-01
```

```
     1. Add product

     2. Delete product

     3. Update product

     4. Search Product

     5. Display products

     0. Exit
     Enter your choice: 3
     Enter the name of the product to update: pencilbox
     Enter New data.
     Enter Item code:A400
     Enter Item Name:pencilbox
     Enter Company Name:abc
     Enter Item Price:35
     Enter Available stock:15
     Enter Date of purchase(date/month/year):
     Enter date:23/06/01

     1. Add product

     2. Delete product

     3. Update product

     4. Search Product

     5. Display products

     0. Exit
     Enter your choice: 5
       Item Code   Item Name Item Company   Price   Stock(s) available  \
     0      B345         BAG      Skybags    1640                    25
     1      A201         PEN     Technotip     10                   200
     2      B220    NOTEBOOK     Classmate     75                   600
     3      B221      PENCIL       Apsara      5                    200
     4      E285       MANGO      Ellikkal     70                    50
     5      A400    PENCILBOX         abc      35                    15

       Date of Purchase
     0       2023-04-21
     1       2023-05-26
     2       2023-05-20
     3       2023-05-26
     4       2023-06-21
     5       2023-06-01

     1. Add product

     2. Delete product

     3. Update product

     4. Search Product

     5. Display products

     0. Exit
     Enter your choice: 4
     Enter item no to be searched:E285
     ==================================
```

```
Item Code: E285
Item Name: MANGO
Item Company: Ellikkal
Item Price: 70
Total Stock: 50
Date of Purchase: 2023-06-21
===================================
1 Record(s) found

1. Add product

2. Delete product

3. Update product

4. Search Product

5. Display products

0. Exit
Enter your choice: 5
  Item Code  Item Name Item Company  Price  Stock(s) available  \
0     B345        BAG      Skybags   1640                  25
1     A201        PEN    Technotip     10                 200
2     B220   NOTEBOOK    Classmate     75                 600
3     B221     PENCIL       Apsara      5                 200
4     E285      MANGO      Ellikkal     70                  50
5     A400  PENCILBOX          abc     35                  15

   Date of Purchase
0       2023-04-21
1       2023-05-26
2       2023-05-20
3       2023-05-26
4       2023-06-21
5       2023-06-01

1. Add product

2. Delete product

3. Update product

4. Search Product

5. Display products

0. Exit
Enter your choice: 0
YOU ARE NOW EXITING FROM ITEMS MENU.

**********************************************************************
==================== Supermarket Management System ====================
====================          ABC SUPERMARKET        ====================
====================             MAIN MENU           ====================
**********************************************************************

1. Items Menu

2. Customer Menu

3. Billing

0. Exit
```

```
Enter your choice: 2

YOU ARE IN CUSTOMER MENU

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit

Enter your choice: 5
   Customer Name  Customer Score
0            ABC            1200
1            DEF            1100
2            GHI            4000
3            JKL            3200
4            MNO            1000
5            PQR            2000

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit

Enter your choice: 2
Enter Customer Name to delete: mno
Record deleted successfully.

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit

Enter your choice: 5
   Customer Name  Customer Score
0            ABC            1200
1            DEF            1100
2            GHI            4000
3            JKL            3200
4            PQR            2000

1. Add customer details
```

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit

Enter your choice: 1
Enter Customer Name:mno
Enter Customer Score:1000
Record inserted.

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit

Enter your choice: 5
   Customer Name Customer Score
0   ABC   1200
1   DEF   1100
2   GHI   4000
3   JKL   3200
4   PQR   2000
5   MNO   1000

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit

Enter your choice: 3
Enter the customer name: jkl
Enter New data.
Enter Customer Name: jkl
Enter Customer Score2900

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

```
0. Exit

Enter your choice: 5
  Customer Name  Customer Score
0         ABC             1200
1         DEF             1100
2         GHI             4000
3         JKL             2900
4         PQR             2000
5         MNO             1000

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit

Enter your choice: 4
Enter customer name to be searched:ghi
===================================
Customer Name: GHI
Customer Score: 4000
===================================
1 Record(s) found

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit

Enter your choice: 5
  Customer Name  Customer Score
0         ABC             1200
1         DEF             1100
2         GHI             4000
3         JKL             2900
4         PQR             2000
5         MNO             1000

1. Add customer details

2. Delete customer details

3. Update customer details

4. Search customer details

5. Display customer details

0. Exit
```

```
Enter your choice: 0
YOU ARE NOW EXITING FROM ITEMS MENU


***********************************************************************
==================== Supermarket Management System ====================
====================         ABC SUPERMARKET        ====================
====================            MAIN MENU           ====================
***********************************************************************

1. Items Menu

2. Customer Menu

3. Billing

0. Exit

Enter your choice: 3

***********************************************************************

                              BILLING

***********************************************************************
Enter the name of the product (or 'Done' to finish): notebook
Enter the quantity: 7
Enter the name of the product (or 'Done' to finish): bag
Enter the quantity: 1
Enter the name of the product (or 'Done' to finish): pencil
Enter the quantity: 5
Enter the name of the product (or 'Done' to finish): pen
Enter the quantity: 5
Enter the name of the product (or 'Done' to finish): done
YOU ARE NOW EXITING FROM BILLING MENU
  PRODUCT NAME  PRICE  Quantity  Amount
0    NOTEBOOK      75         7     525
1         BAG    1640         1    1640
2      PENCIL       5         5      25
3         PEN      10         5      50

****************
Total Amount  2240
****************

***** THANK YOU, VISIT AGAIN :) *****

***********************************************************************
==================== Supermarket Management System ====================
====================         ABC SUPERMARKET        ====================
====================            MAIN MENU           ====================
***********************************************************************

1. Items Menu

2. Customer Menu

3. Billing

0. Exit

Enter your choice: 0
ARE YOU SURE YOU WANT TO EXIT?
YES  NO
yes
```

```
YOU ARE EXITING FROM THE PROGRAM. HAVE A GOOD DAY <3
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
```