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# Python Project
# Program to manage medical shop using SQL, File

print("-----Medical Shop Management System------\n---------USAVN Medical Shop---------\n")

#-----------------------------------------------------------------Imported Required Modules-----------------------------------
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import time
from datetime import *
import csv
import os
import mysql.connector as sqltor # Connecting to Database

#-----------------------------------------------------------------Database Connection-----------------------------------------
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mycon = sqltor.connect(host = '127.0.0.1', user = 'root', passwd = 'root', database = 'CS2020_21') #
Name of database is CS2020_21
cursor = mycon.cursor() # Creating Cursor

cursor.execute("CREATE TABLE IF NOT EXISTS Medical_Shop(Code INT PRIMARY KEY, Name_Of_Med
VARCHAR(40), Name_Of_Manu VARCHAR(40), Batch_No VARCHAR(15), Manu_Date Date, Exp_Date
Date, Quantity INT(4), Price_Per10 FLOAT(5,2))")
cursor.execute("CREATE TABLE IF NOT EXISTS Bill(Billno INT(5) PRIMARY KEY,Patient_Name
VARCHAR(40),Date Date)")

#-------------------------------------------------Fetching Current date and time from database-----------------------
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cursor.execute("select NOW()")      # getting current date with the help of my sql database
t = cursor.fetchone()
for row in t :
   Time = row
   #print("Time :", Time)

cursor.execute("select CURDATE()")      # getting current date with the help of my sql database
d = cursor.fetchone()
for row in d :
   Date = row
   print("Date :", Date)

   '''
   We can also use
   print(date.today())
   '''

#----------------------------------function to reduce quantity of stock whenever a medicine is purchased------
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def reduce():
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    cursor = mycon.cursor()  # creating cursor object

    quant = stockquant - quan

    queryup = 'update medical_shop set Quantity = {} where Code = {}'.format(quant, code) # Updating
the quantity
    cursor.execute(queryup)
    mycon.commit()

#-----------------------------------------------------------------Main Code-----------------------------------------------
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    #-------------------------------------------------------------main menu-----------------------------------------------#

answer1 = 'y'
while answer1.lower() == 'y' :

    print("\n-------------------------------------------------------------------------------")
    print("1. Update\View Stock On Database. \n2. Print Invoice/Bill for a Purchase.(Create a file) \n3.
Exit. ") # Choice
    ch = int(input("What do you want to do ? (1/2/3) : "))

#-----------------------------------------------------------------Adding Medicine To Database-----------------------------
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    if ch == 1 :
        if mycon.is_connected():
            print('Successfully Connected to MySQL Databases \n')

        print("-------------------------------------------------")
        cursor = mycon.cursor() # creating cursor object

        print("-----Medicine Database------\n\n")

        answer = 'y'
        while answer.lower() == 'y' :
            print("1. Add Medicine \n2. Remove Medicine \n3. Update Medicine Information \n4. List Of
Medicine \n5. Main Menu")
            ch1 = int(input("What do you want to do ? (1/2/3/4/5) : "))

            if ch1 == 1 :  # Adding Medicine to stock
                ans = 'y'
                while ans.lower() == 'y':
                    print()
                    print("------Adding Medicine to Stock------\n")

                    code = int(input("Enter Code : "))
                    queryup = 'select * from medical_shop where Code = {}'.format(code)
                    cursor.execute(queryup)
                    result = cursor.fetchall()

                    if cursor.rowcount == 0 : # Checking for duplicate entry
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                nmed = input("Enter Name of Medicine : ")
                nmanu = input("Enter Name of Manufacturer : ")
                batch = input("Enter Batch No. : ")
                mandate = input("Enter Date of Manufacturing (YYYY-MM-DD) : ")
                expdate = input("Enter Date of Expiry (YYYY-MM-DD) : ")

                a = date.fromisoformat(mandate)
                #print(a)
                b = date.fromisoformat(expdate)
                #print(b)

                if a < b :
                   pass
                else:
                   print('Invalid Input ! \nDate Expiry Date shoud be after Manufacturing date ')
                   break

                quan = int(input("Enter Quantity : "))
                price = float(input("Enter Price Per 10 Tablets / 10 units : "))

                query = 'insert into medical_shop values({}, "{}", "{}", "{}", "{}", "{}", {}, {})'.format(code,
nmed, nmanu, batch, mandate, expdate, quan, price)
                cursor.execute(query)
                mycon.commit()

                print('Data Saved Successfully')

                ans = input('Want to add more ?(y/n): ')

             else:

                print('%10s'%'Code', '%20s'%'Name of Medicine', '%25s'%'Name of Manufacturer',
'%15s'%'Batch No.', '%25s'%'Date of Manufacturer', '%15s'%'Date of Expiry', '%20s'%'Quantity',
'%18s'%'Price')
                for row in result:
                   print('%10s'%row[0], '%20s'%row[1], '%25s'%row[2], '%13s'%row[3], '%18s'%row[4],
'%20s'%row[5], '%20s'%row[6], '%21s'%row[7])
                print("Medicine with code", code, "Already Present !!!\n")
                break

#-------------------------------------------------------------Deleting Medicine from Database-------------------------
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        elif ch1 == 2 :
           ans = 'y'
           while ans.lower() == 'y':
              print("------Deleting Medicine from Stock------\n")
              nmed = input("Enter name of medicine to be Deleted: ")
              query = 'select * from medical_shop where Name_of_Med = "{}"'.format(nmed)
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            cursor.execute(query)
            result = cursor.fetchall()

            if cursor.rowcount == 0 :
               tim.sleep(0.5)
               print("Sorry! medicine with ", nmed, "not found")

            else:
               print('%10s'%'Code', '%20s'%'Name of Medicine', '%25s'%'Name of Manufacturer',
'%15s'%'Batch No.', '%25s'%'Date of Manufacturer', '%15s'%'Date of Expiry', '%20s'%'Quantity',
'%18s'%'Price')
               for row in result:
                  print('%10s'%row[0], '%20s'%row[1], '%25s'%row[2], '%13s'%row[3], '%18s'%row[4],
'%20s'%row[5], '%20s'%row[6], '%21s'%row[7])
                  code = row[0]
                  su = input("\n\nWant to delete Sure(y/n): ")

                  if su.lower() == 'y':
                     queryde = 'delete from medical_shop where code = {}'.format(code)
                     cursor.execute(queryde)
                     mycon.commit()

                     print('Record Deleted Successfully')

            ans = input('Want to delete more ?(y/n): ')

#-----------------------------------------------------------------Updating Medicine of previously entered Database----
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         elif ch1 == 3 :   # Updating Medicine Information
            print("------Updating Info of Medicine of Stock------\n")
            ans = 'y'
            while ans.lower() == 'y':
               nmed = input("Enter name of medicine to be updated: ")
               queryup = 'select * from medical_shop where Name_of_Med = "{}"'.format(nmed)
               cursor.execute(queryup)
               result = cursor.fetchall()

               if cursor.rowcount == 0 :

                  print("Sorry! medicine ", nmed, "not found\n")

               else:
                  print('%10s'%'Code', '%20s'%'Name of Medicine', '%25s'%'Name of Manufacturer',
'%15s'%'Batch No.', '%25s'%'Date of Manufacturer', '%15s'%'Date of Expiry', '%20s'%'Quantity',
'%18s'%'Price')
                  for row in result:
                     code = row[0]
                     print('%10s'%row[0], '%20s'%row[1], '%25s'%row[2], '%13s'%row[3], '%18s'%row[4],
'%20s'%row[5], '%20s'%row[6], '%21s'%row[7])
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                choice = input("Sure to Update(y/n) : ")

                if choice.lower() == 'y':
                    print("---You can update only Batch No., Date of manufacturing and expiry, Quantity
and Price---")


                    bno = input("Enter new batch No. (leave blank if you don't want to change it): ")
                    if bno == '':
                        bno = row[3]

                    Dman = input("Enter new Date of Manufacturing (leave blank if you don't want to
change it): ")
                    if Dman == '':
                        Dman = row[4]

                    Dexp = input("Enter new Date of Expiry (leave blank if you don't want to change it): ")
                    if Dexp == '':
                        Dexp = row[5]

                    qua = input("Enter new Quantity(leave blank if you don'twant to change it): ")
                    if qua == '':
                        qua0 = row[6]
                        qua = int(qua0)

                    pri = input("Enter new Price (leave blank if you don't want to change it): ")
                    if pri == '':
                        pri0 = row[7]
                        pri = int(pri0)

                    queryup = 'update medical_shop set Batch_No = "{}", Manu_Date = "{}", Exp_Date =
"{}", Quantity = {}, Price_Per10 = {} where code = {}'.format(bno, Dman, Dexp, qua, pri, code)
                    cursor.execute(queryup)
                    mycon.commit()

                    print("Record updated succesfully\n")

            ans = input('Want to update more ?(y/n): ')

#-----------------------------------------------------------------Getting Medicine(List) Details from Database-----------
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        elif ch1 == 4 :
            print("------ Medicines in Stock------\n")
            query = 'select * from medical_shop'
            cursor.execute(query)
            result = cursor.fetchall()
            print('%10s'%'Code', '%20s'%'Name of Medicine', '%25s'%'Name of Manufacturer',
'%15s'%'Batch No.', '%25s'%'Date of Manufacturer', '%15s'%'Date of Expiry', '%20s'%'Quantity',
'%18s'%'Price')
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            for row in result:
                print('%10s'%row[0], '%20s'%row[1], '%25s'%row[2], '%13s'%row[3], '%18s'%row[4],
'%20s'%row[5], '%20s'%row[6], '%21s'%row[7])

#-------------------------------------------------------------If User want to go to main menu-------------------------
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        elif ch1 == 5 :
            break

#-------------------------------------------------------------In case invalid input is given---------------------------------
--------------#
        else :

            print("Invalid Input ! ")

#-------------------------------------------------------------Shows option to choose menu and sub menu-----------
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        print("-------------------------------------------------------------\n")
        answer = input("For Database Menu Press y and Press Enter(return) for Main Menu : ")


#-------------------------------------------------------------Print Invoice-------------------------------------------------#

    elif ch == 2 :

        print("Time :", Time)

#-------------------------------------------------------------Getting Bill no. from database---------------------------------
-----------------#

        query2 = 'select * from bill'
        cursor.execute(query2)
        result2 = cursor.fetchall()
        if result2 == [] :
            billno = 0
        else:
            for row in result2 :
                billno = row[0]
#-------------------------------------------------------------Invoice Interface-----------------------------------------------
-#

        print("\n--------------------------------USAVN Medical Shop Tumsar-----------------------------------\n")
        billno = billno + 1 #int(input("Bill No. : "))
        print("Bill No.",billno)

        print("Date & Time :", Time)
        pname = input("Name of patient : ") # Patient name
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    query1 = 'select * from bill where Billno = {}'.format(billno)
    cursor.execute(query1)
    result1 = cursor.fetchall()

#-------------------------------------------------------------inserting current billno. to database-------------------------------------#

    if result1 == [] :

        query0 = 'insert into bill values({}, "{}", "{}")'.format(billno, pname, Date) # saving Bill No to database
        cursor.execute(query0)
        mycon.commit()

#-------------------------------------------------------------getting details about patient-----------------------------------------#

        rdoc = input("Refered by Doctor : ")
        add = input("Address of Patient : ")
        n = int(input("Number of Medicines : ")) # getting the number of medicines prescibed by doctor
        fname = (pname+ str(billno)+".csv")

#-----------------------------------------------Creating and opening a csv file using patient name and billno.-----------------------------------------------#
        with open(fname, mode = 'w', newline = '\n') as csvfile :

            date0 = Date.strftime("%A, %d %B %Y")
            time0 = str(Time)
            time1 = time0[11:19]
            #print(time1)

            filewriter = csv.writer(csvfile,delimiter = ',')

#-------------------------------------------------------------Writing data onto csv file-------------------------------------------------#

            filewriter.writerow(["-----------------------------------------------USAVN Medical Shop Tumsar-----------------------------------------------"])
            filewriter.writerow(["Bill No. : "+ str(billno),'','','','','','', str(date0)])
            filewriter.writerow(["Patient's Name : " + pname ,'','','','','','', 'Issue Time :' + str(time1)])
            filewriter.writerow(["Address : " + add ])
            filewriter.writerow(["Refered by Doctor : " + rdoc ])
            filewriter.writerow([])
            filewriter.writerow(["Sr.No.", "Name of Medicine",'', " Manufacturing.Co.",'', "Batch No.", "Man.Date", "Exp.Date", "Quantity", "Price", "Amount"])

            b = c =0
            total = amt = 0
            ans = 'y'
            for i in range(n):
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            print("\nSr. No.", i+1)

            nmed0 = input("Enter name of medicine : ")   # Using the name of medicine  the  other
details will be obtained from the database
            nmed = nmed0.capitalize()
            query1 = 'select * from medical_shop where Name_of_Med = "{}"'.format(nmed)
            cursor.execute(query1)
            result = cursor.fetchall()
            for row in result:
               if row[6] <= 50 :
                  print(row[1], 'is getting out of stock\n')
               else:
                  pass

            if result == []:
               print("Sorry! medicine with name ", nmed, "not found\n")
               b = 1
               c = 0
               csvfile.close()
               break

            for row in result:     # Checking the existence of a medicine
               if cursor.rowcount != 0 :
                  quan = int(input("Quantity : " ))
                  code = row[0]      # Getting details according to name of medicine
                  nmanu = row[2]     # Fetching data from database
                  batchn = row[3]

                  mandate0 = str(row[4])
                  mandate = mandate0[0:7]

                  expdate0 = str(row[5])
                  expdate = expdate0[0:7]

                  #print(mandate, expdate)
                  stockquant = row[6]
                  price = row[7]

                  #print(price)
                  oneprice = price / 10  # Calculating the amount of each tablet
                  amt = quan * oneprice  # Calculating the amount of One medicine

                  text = [str(i+1), nmed,'', nmanu,'', str(batchn), str(mandate), str(expdate), str(quan),
str(price), str(amt)]
                  filewriter.writerow(text)

               print()
               total = total + amt   # Total Amount
               reduce()    # Calling reduce function to reduce the purchased medicine from database
               c = 1
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```
            if c == 1:
                filewriter.writerow([])
                filewriter.writerow(["Total Amount: " + str(total)])
                filewriter.writerow(["Inclusive of all taxes. "])
                csvfile.close()


                print("\nInvoice Printed Successfully ")
                print("_____ \n")

#-----------------------------------------------------------------incase medicine not found-----------------------------------
-------------------------#
            if b == 1:
                os.remove(fname)

                print("Invoice Printing Failed ! ")
                print("_____ ")

                queryde = 'delete from bill where billno = {}'.format(billno)
                cursor.execute(queryde)
                mycon.commit()
        else :

            print("Bill no.",billno, "present already\n")
            print('%10s'%'Bill No.', '%20s'%'Name of Patient', '%25s'%'Date',)
            for row in result1 :
                print('%10s'%row[0], '%20s'%row[1], '%25s'%row[2])
            print()

#-----------------------------------------------------------------Closing connection with database when user quits-----
-------------------------------------------#
    elif ch == 3 :
        break
        mycon.close() # closing connection with database

    else :
        print("Invalid Input")
```