import random

import datetime

# Global List Declaration

name = []

phno = []

add = []

checkin = []

checkout = []

room = []

price = []

rc = []

p = []

roomno = []

custid = []

day = []

# Global Variable Declaration

i = 0

# Home Function

def Home():

    print("\t\t\t\t\t\t WELCOME TO HOTEL ARCANE\n")

    print("\t\t\t 1 Booking\n")

    print("\t\t\t 2 Rooms Info\n")

    print("\t\t\t 3 Room Service(Menu Card)\n")

    print("\t\t\t 4 Payment\n")

    print("\t\t\t 5 Record\n")

    print("\t\t\t 0 Exit\n")

    ch=int(input("->"))

    if ch == 1:

        print(" ")

        Booking()

    elif ch == 2:

        print(" ")

        Rooms\_Info()

    elif ch == 3:

        print(" ")

        restaurant()

    elif ch == 4:

        print(" ")

        Payment()

    elif ch == 5:

        print(" ")

        Record()

    else:

        exit()

# Function used in booking

def date(c):

    if c[2] >= 2022 and c[2] <= 2025:

        if c[1] != 0 and c[1] <= 12:

            if c[1] == 2 and c[0] != 0 and c[0] <= 31:

                if c[2]%4 == 0 and c[0] <= 29:

                    pass

                elif c[0]<29:

                    pass

                else:

                    print("Invalid date\n")

                    name.pop(i)

                    phno.pop(i)

                    add.pop(i)

                    checkin.pop(i)

                    checkout.pop(i)

                    Booking()

            # if month is odd & less than equal

            # to 7th month

            elif c[1] <= 7 and c[1]%2 != 0 and c[0] <= 31:

                pass

            # if month is even & less than equal to 7th

            # month and not 2nd month

            elif c[1] <= 7 and c[1]%2 == 0 and c[0] <= 30 and c[1] != 2:

                pass

            # if month is even & greater than equal

            # to 8th month

            elif c[1] >= 8 and c[1]%2 == 0 and c[0] <= 31:

                pass

            # if month is odd & greater than equal

            # to 8th month

            elif c[1]>=8 and c[1]%2!=0 and c[0]<=30:

                pass

            else:

                print("Invalid date\n")

                name.pop(i)

                phno.pop(i)

                add.pop(i)

                checkin.pop(i)

                checkout.pop(i)

                Booking()

        else:

            print("Invalid date\n")

            name.pop(i)

            phno.pop(i)

            add.pop(i)

            checkin.pop(i)

            checkout.pop(i)

            Booking()

    else:

        print("Invalid date\n")

        name.pop(i)

        phno.pop(i)

        add.pop(i)

        checkin.pop(i)

        checkout.pop(i)

        Booking()

# Booking function

def Booking():

        # used global keyword to

        # use global variable 'i'

        global i

        print(" BOOKING ROOMS")

        print(" ")

        while 1:

            n = str(input("Name: "))

            p1 = str(input("Phone No.: "))

            a = str(input("Address: "))

            # checks if any field is not empty

            if n!="" and p1!="" and a!="":

                name.append(n)

                add.append(a)

                break

            else:

                print("\tName, Phone no. & Address cannot be empty..!!")

        cii=str(input("Check-In: "))

        checkin.append(cii)

        cii=cii.split('/')

        ci=cii

        ci[0]=int(ci[0])

        ci[1]=int(ci[1])

        ci[2]=int(ci[2])

        date(ci)

        coo=str(input("Check-Out: "))

        checkout.append(coo)

        coo=coo.split('/')

        co=coo

        co[0]=int(co[0])

        co[1]=int(co[1])

        co[2]=int(co[2])

        # checks if check-out date falls after

        # check-in date

        if co[1]<ci[1] and co[2]<ci[2]:

            print("\n\tErr..!!\n\tCheck-Out date must fall after Check-In\n")

            name.pop(i)

            add.pop(i)

            checkin.pop(i)

            checkout.pop(i)

            Booking()

        elif co[1]==ci[1] and co[2]>=ci[2] and co[0]<=ci[0]:

            print("\n\tErr..!!\n\tCheck-Out date must fall after Check-In\n")

            name.pop(i)

            add.pop(i)

            checkin.pop(i)

            checkout.pop(i)

            Booking()

        else:

            pass

        date(co)

        d1 = datetime.datetime(ci[2],ci[1],ci[0])

        d2 = datetime.datetime(co[2],co[1],co[0])

        d = (d2-d1).days

        day.append(d)

        print("----SELECT ROOM TYPE----")

        print(" 1. Standard Non-AC")

        print(" 2. Standard AC")

        print(" 3. 3-Bed Non-AC")

        print(" 4. 3-Bed AC")

        print(("\t\tPress 0 for Room Prices"))

        ch=int(input("->"))

        # if-conditions to display allotted room

        # type and it's price

        if ch==0:

            print(" 1. Standard Non-AC - Rs. 3500")

            print(" 2. Standard AC - Rs. 4000")

            print(" 3. 3-Bed Non-AC - Rs. 4500")

            print(" 4. 3-Bed AC - Rs. 5000")

            ch=int(input("->"))

        if ch==1:

            room.append('Standard Non-AC')

            print("Room Type- Standard Non-AC")

            price.append(3500)

            print("Price- 3500")

        elif ch==2:

            room.append('Standard AC')

            print("Room Type- Standard AC")

            price.append(4000)

            print("Price- 4000")

        elif ch==3:

            room.append('3-Bed Non-AC')

            print("Room Type- 3-Bed Non-AC")

            price.append(4500)

            print("Price- 4500")

        elif ch==4:

            room.append('3-Bed AC')

            print("Room Type- 3-Bed AC")

            price.append(5000)

            print("Price- 5000")

        else:

            print(" Wrong choice..!!")

        # randomly generating room no. and customer

        # id for customer

        rn = random.randrange(40)+300

        cid = random.randrange(40)+10

        # checks if allotted room no. & customer

        # id already not allotted

        while rn in roomno or cid in custid:

            rn = random.randrange(60)+300

            cid = random.randrange(60)+10

        rc.append(0)

        p.append(0)

        if p1 not in phno:

            phno.append(p1)

        elif p1 in phno:

            for n in range(0,i):

                if p1== phno[n]:

                    if p[n]==1:

                        phno.append(p1)

        elif p1 in phno:

            for n in range(0,i):

                if p1== phno[n]:

                    if p[n]==0:

                        print("\tPhone no. already exists and payment yet not done..!!")

                        name.pop(i)

                        add.pop(i)

                        checkin.pop(i)

                        checkout.pop(i)

                        Booking()

        print("")

        print("\t\t\t\*\*\*ROOM BOOKED SUCCESSFULLY\*\*\*\n")

        print("Room No. - ",rn)

        print("Customer Id - ",cid)

        roomno.append(rn)

        custid.append(cid)

        i=i+1

        n=int(input("0-BACK\n ->"))

        if n==0:

            Home()

        else:

            exit()

# ROOMS INFO

def Rooms\_Info():

    print("      ------ HOTEL ROOMS INFO ------")

    print("")

    print("STANDARD NON-AC")

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

    print("Room amenities include: 1 Double Bed, Television, Telephone,")

    print("Double-Door Cupboard, 1 Coffee table with 2 sofa, Balcony and")

    print("an attached washroom with hot/cold water.\n")

    print("STANDARD NON-AC")

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

    print("Room amenities include: 1 Double Bed, Television, Telephone,")

    print("Double-Door Cupboard, 1 Coffee table with 2 sofa, Balcony and")

    print("an attached washroom with hot/cold water + Window/Split AC.\n")

    print("3-Bed NON-AC")

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

    print("Room amenities include: 1 Double Bed + 1 Single Bed, Television,")

    print("Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa, 1")

    print("Side table, Balcony with an Accent table with 2 Chair and an")

    print("attached washroom with hot/cold water.\n")

    print("3-Bed AC")

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

    print("Room amenities include: 1 Double Bed + 1 Single Bed, Television,")

    print("Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa, ")

    print("1 Side table, Balcony with an Accent table with 2 Chair and an")

    print("attached washroom with hot/cold water + Window/Split AC.\n\n")

    print()

    n=int(input("0-BACK\n ->"))

    if n==0:

        Home()

    else:

        exit()

# RESTAURANT FUNCTION

def restaurant():

    ph=int(input("Customer Id: "))

    global i

    f=0

    r=0

    for n in range(0,i):

        if custid[n]==ph and p[n]==0:

            f=1

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

            print("                      Hotel AnCasa")

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

            print("                      Menu Card")

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

            print("\n BEVARAGES                          26 Dal Fry................ 140.00")

            print("----------------------------------    27 Dal Makhani............ 150.00")

            print(" 1 Regular Tea............. 20.00     28 Dal Tadka.............. 150.00")

            print(" 2 Masala Tea.............. 25.00")

            print(" 3 Coffee.................. 25.00     ROTI")

            print(" 4 Cold Drink.............. 25.00     ----------------------------------")

            print(" 5 Bread Butter............ 30.00     29 Plain Roti.............. 15.00")

            print(" 6 Bread Jam............... 30.00     30 Butter Roti............. 15.00")

            print(" 7 Veg. Sandwich........... 50.00     31 Tandoori Roti........... 20.00")

            print(" 8 Veg. Toast Sandwich..... 50.00     32 Butter Naan............. 20.00")

            print(" 9 Cheese Toast Sandwich... 70.00")

            print(" 10 Grilled Sandwich........ 70.00    RICE")

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

            print(" SOUPS                                33 Plain Rice.............. 90.00")

            print("----------------------------------    34 Jeera Rice.............. 90.00")

            print(" 11 Tomato Soup............ 110.00    35 Veg Pulao.............. 110.00")

            print(" 12 Hot & Sour............. 110.00    36 Peas Pulao............. 110.00")

            print(" 13 Veg. Noodle Soup....... 110.00")

            print(" 14 Sweet Corn............. 110.00    SOUTH INDIAN")

            print(" 15 Veg. Munchow........... 110.00    ----------------------------------")

            print("                                  37 Plain Dosa............. 100.00")

            print(" MAIN COURSE                      38 Onion Dosa............. 110.00")

            print("----------------------------------    39 Masala Dosa............ 130.00")

            print(" 16 Shahi Paneer........... 110.00    40 Paneer Dosa............ 130.00")

            print(" 17 Kadai Paneer........... 110.00    41 Rice Idli.............. 130.00")

            print(" 18 Handi Paneer........... 120.00    42 Sambhar Vada........... 140.00")

            print(" 19 Palak Paneer........... 120.00")

            print(" 20 Chilli Paneer.......... 140.00    ICE CREAM")

            print(" 21 Matar Mushroom......... 140.00    ----------------------------------")

            print(" 22 Mix Veg................ 140.00    43 Vanilla................. 60.00")

            print(" 23 Jeera Aloo............. 140.00    44 Strawberry.............. 60.00")

            print(" 24 Malai Kofta............ 140.00    45 Pineapple............... 60.00")

            print(" 25 Aloo Matar............. 140.00    46 Butter Scotch........... 60.00")

            print("Press 0 -to end ")

            ch=1

            while(ch!=0):

                ch=int(input(" -> "))

                # if-elif-conditions to assign item

                # prices listed in menu card

                if ch==1 or ch==31 or ch==32:

                    rs=20

                    r=r+rs

                elif ch<=4 and ch>=2:

                    rs=25

                    r=r+rs

                elif ch<=6 and ch>=5:

                    rs=30

                    r=r+rs

                elif ch<=8 and ch>=7:

                    rs=50

                    r=r+rs

                elif ch<=10 and ch>=9:

                    rs=70

                    r=r+rs

                elif (ch<=17 and ch>=11) or ch==35 or ch==36 or ch==38:

                    rs=110

                    r=r+rs

                elif ch<=19 and ch>=18:

                    rs=120

                    r=r+rs

                elif (ch<=26 and ch>=20) or ch==42:

                    rs=140

                    r=r+rs

                elif ch<=28 and ch>=27:

                    rs=150

                    r=r+rs

                elif ch<=30 and ch>=29:

                    rs=15

                    r=r+rs

                elif ch==33 or ch==34:

                    rs=90

                    r=r+rs

                elif ch==37:

                    rs=100

                    r=r+rs

                elif ch<=41 and ch>=39:

                    rs=130

                    r=r+rs

                elif ch<=46 and ch>=43:

                    rs=60

                    r=r+rs

                elif ch==0:

                    pass

                else:

                    print("Wrong Choice..!!")

            print("Total Bill: ",r)

            # updates restaurant charges and then

            # appends in 'rc' list

            r=r+rc.pop(n)

            rc.append(r)

        else:

            pass

    if f == 0:

        print("Invalid Customer Id")

    n=int(input("0-BACK\n ->"))

    if n==0:

        Home()

    else:

        exit()

# PAYMENT FUNCTION

def Payment():

    ph=str(input("Phone Number: "))

    global i

    f=0

    for n in range(0,i):

        if ph==phno[n] :

            # checks if payment is

            # not already done

            if p[n]==0:

                f=1

                print(" Payment")

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

                print(" MODE OF PAYMENT")

                print(" 1- Credit/Debit Card")

                print(" 2- Paytm/PhonePe")

                print(" 3- Using UPI")

                print(" 4- Cash")

                x=int(input("-> "))

                print("\n Amount: ",(price[n]\*day[n])+rc[n])

                print("\n        Pay For AnCasa")

                print(" (y/n)")

                ch=str(input("->"))

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

                    print("\n\n --------------------------------")

                    print("      Hotel ARCANE")

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

                    print("          Bill")

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

                    print(" Name: ",name[n],"\t\n Phone No.: ",phno[n],"\t\n Address: ",add[n],"\t")

                    print("\n Check-In: ",checkin[n],"\t\n Check-Out: ",checkout[n],"\t")

                    print("\n Room Type: ",room[n],"\t\n Room Charges: ",price[n]\*day[n],"\t")

                    print(" Restaurant Charges: \t",rc[n])

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

                    print("\n Total Amount: ",(price[n]\*day[n])+rc[n],"\t")

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

                    print("      Thank You")

                    print("      Visit Again :)")

                    print(" --------------------------------\n")

                    p.pop(n)

                    p.insert(n,1)

                    # pops room no. and customer id from list and

                    # later assigns zero at same position

                    roomno.pop(n)

                    custid.pop(n)

                    roomno.insert(n,0)

                    custid.insert(n,0)

            else:

                for j in range(n+1,i):

                    if ph==phno[j] :

                        if p[j]==0:

                            pass

                        else:

                            f=1

                            print("\n\tPayment has been Made :)\n\n")

    if f==0:

        print("Invalid Customer Id")

    n = int(input("0-BACK\n ->"))

    if n == 0:

        Home()

    else:

        exit()

# RECORD FUNCTION

def Record():

    # checks if any record exists or not

    if phno!=[]:

        print("  \*\*\* HOTEL RECORD \*\*\*\n")

        print("| Name    | Phone No. | Address   | Check-In | Check-Out  | Room Type     | Price     |")

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

        for n in range(0,i):

            print("|",name[n],"\t |",phno[n],"\t|",add[n],"\t|",checkin[n],"\t|",checkout[n],"\t|",room[n],"\t|",price[n])

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

    else:

        print("No Records Found")

    n = int(input("0-BACK\n ->"))

    if n == 0:

        Home()

    else:

        exit()

# Driver Code

Home()