DSA MINI PROJECT

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INPUT –

```python
# importing the module
import sys

def initial_phonebook():
        rows, cols = int(input("Please enter initial number of contacts: ")), 5

        phone_book = []
        print(phone_book)
        for i in range(rows):
                print("\nEnter contact %d details in the following order (ONLY):" % (i+1))
                print("NOTE: * indicates mandatory fields")
                print("......................................................................")
                temp = []
                for j in range(cols):
                        if j == 0:
                                temp.append(str(input("Enter name*: ")))
                                if temp[j] == '' or temp[j] == ' ':
                                        sys.exit(
                                                "Name is a mandatory field. Process exiting due to blank field...")
                        if j == 1:
                                temp.append(int(input("Enter number*: ")))
                        if j == 2:
                                temp.append(str(input("Enter e-mail address: ")))

                                if temp[j] == '' or temp[j] == ' ':
                                        temp[j] = None
                        if j == 3:
                                temp.append(str(input("Enter date of birth(dd/mm/yy): ")))
                                if temp[j] == '' or temp[j] == ' ':
                                        temp[j] = None
                        if j == 4:
                                temp.append(
                                        str(input("Enter category(Family/Friends/Work/Others): ")))
                                if temp[j] == "" or temp[j] == ' ':
                                        temp[j] = None
                phone_book.append(temp)
        print(phone_book)
        return phone_book

def menu():
        print("**********************************************************************")
        print("\t\t\tSMARTPHONE DIRECTORY", flush=False)
        print("**********************************************************************")
        print("\tYou can now perform the following operations on this phonebook\n")
        print("1. Add a new contact")
        print("2. Remove an existing contact")
        print("3. Delete all contacts")
        print("4. Search for a contact")
        print("5. Display all contacts")
        print("6. Exit phonebook")
        choice = int(input("Please enter your choice: "))
        return choice

def add_contact(pb):
        dip = []
        for i in range(len(pb[0])):
                if i == 0:
                        dip.append(str(input("Enter name: ")))
                if i == 1:
                        dip.append(int(input("Enter number: ")))
                if i == 2:
                        dip.append(str(input("Enter e-mail address: ")))
                if i == 3:
                        dip.append(str(input("Enter date of birth(dd/mm/yy): ")))
                if i == 4:
                        dip.append(
                                str(input("Enter category(Family/Friends/Work/Others): ")))
        pb.append(dip)
        return pb

def remove_existing(pb):
        query = str(
                input("Please enter the name of the contact you wish to remove: "))
        temp = 0
        for i in range(len(pb)):
                if query == pb[i][0]:
                        temp += 1
```

```python
def remove_existing(pb):
        query = str(
                input("Please enter the name of the contact you wish to remove: "))
        temp = 0
        for i in range(len(pb)):
                if query == pb[i][0]:
                        temp += 1
                        print(pb.pop(i))
                        print("This query has now been removed")
                        return pb
        if temp == 0:
                print("Sorry, you have entered an invalid query.\
        Please recheck and try again later.")
                return pb

def delete_all(pb):
        return pb.clear()

def search_existing(pb):
        choice = int(input("Enter search criteria\n\n\
        1. Name\n2. Number\n3. Email-id\n4. DOB\n5. Category(Family/Friends/Work/Others)\
        \nPlease enter: "))
        temp = []
        check = -1
        if choice == 1:
                query = str(
                        input("Please enter the name of the contact you wish to search: "))
                for i in range(len(pb)):
                        if query == pb[i][0]:
                                check = i
                                temp.append(pb[i])

        elif choice == 2:
                query = int(
                        input("Please enter the number of the contact you wish to search: "))
                for i in range(len(pb)):
                        if query == pb[i][1]:
                                check = i
                                temp.append(pb[i])

        elif choice == 3:
                query = str(input("Please enter the e-mail ID\
                of the contact you wish to search: "))
                for i in range(len(pb)):
                        if query == pb[i][2]:
                                check = i
                                temp.append(pb[i])

        elif choice == 4:
                query = str(input("Please enter the DOB (in dd/mm/yyyy format ONLY)\
                        of the contact you wish to search: "))
                for i in range(len(pb)):
                        if query == pb[i][3]:
                                check = i
                                temp.append(pb[i])

        elif choice == 5:
                query = str(
                        input("Please enter the category of the contact you wish to search: "))
                for i in range(len(pb)):
                        if query == pb[i][4]:
                                check = i
                                temp.append(pb[i])

        else:
                print("Invalid search criteria")
                return -1


        if check == -1:
                return -1
        else:
                display_all(temp)
                return check
```

```python
            display_all(temp)
            return check

def display_all(pb):
    if not pb:
        print("List is empty: []")
    else:
        for i in range(len(pb)):
            print(pb[i])

def thanks():
    print("***********************************************************************")
    print("Thank you for using our Smartphone directory system.")
    print("Please visit again!")
    print("***********************************************************************")
    sys.exit("Goodbye, have a nice day ahead!")


username= 'phonebook'
password='password'

uname=input("Enter Username:")
pword=input("Enter Password:")

flag=4

if (uname==username and pword==password) :
    flag=1
    print(".................................................................")
    print("Hello dear user, welcome to our smartphone directory system")
    print("You may now proceed to explore this directory")
    print(".................................................................")

else:
    print("Invalid Credentials")
    exit()




ch = 1
pb = initial_phonebook()


while ch in (1, 2, 3, 4, 5):
    ch = menu()
    if ch == 1:
        pb = add_contact(pb)
    elif ch == 2:
        pb = remove_existing(pb)
    elif ch == 3:
        pb = delete_all(pb)
    elif ch == 4:
        d = search_existing(pb)
        if d == -1:
            print("The contact does not exist. Please try again")
    elif ch == 5:
        display_all(pb)
    else:
        thanks()
```

OUTPUT –

```
Python 3.10.2 (v3.10.2:a58ebcc701, Jan 13 2022, 14:50:16) [Clang 13.0.0 (clang-1300.0.29.30)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.

=================================================================== RESTART: /Users/prapulprasad/Downloads/project Final.py ===================================================================
Enter Username:phonebook
Enter Password:password
....................................................................
Hello dear user, welcome to our smartphone directory system
You may now proceed to explore this directory
....................................................................
Please enter initial number of contacts: 3
[]

Enter contact 1 details in the following order (ONLY):
NOTE: * indicates mandatory fields
....................................................................
Enter name*: prapul
Enter number*: 7799635444
Enter e-mail address: prapultivanani@gmail.com
Enter date of birth(dd/mm/yy): 19-03-2003
Enter category(Family/Friends/Work/Others): friend

Enter contact 2 details in the following order (ONLY):
NOTE: * indicates mandatory fields
....................................................................
Enter name*: kavya
Enter number*: 8987878687
Enter e-mail address: kavyayannam@gmail.com
Enter date of birth(dd/mm/yy): 11-03-2003
Enter category(Family/Friends/Work/Others): friend

Enter contact 3 details in the following order (ONLY):
NOTE: * indicates mandatory fields
....................................................................
Enter name*: haripriya
Enter number*: 4567891230
Enter e-mail address: haripriyach@gmail.com
Enter date of birth(dd/mm/yy): 28-01-2002
Enter category(Family/Friends/Work/Others): friend
[['prapul', 7799635444, 'prapultivanani@gmail.com', '19-03-2003', 'friend'], ['kavya', 8987878687, 'kavyayannam@gmail.com', '11-03-2003', 'friend'], ['haripriya', 4567891230, 'haripriyach@gmail.com', '28-01-2002', 'friend']]
******************************************************************
                    SMARTPHONE DIRECTORY
******************************************************************
        You can now perform the following operations on this phonebook

1. Add a new contact
2. Remove an existing contact
3. Delete all contacts
4. Search for a contact
5. Display all contacts
6. Exit phonebook
Please enter your choice: 1
Enter name: dhyaneshwar
Enter number: 1234567890
Enter e-mail address: dhyaneshgaddam@gmail.com
Enter date of birth(dd/mm/yy): 1-01-2003
Enter category(Family/Friends/Work/Others): friend
******************************************************************
                    SMARTPHONE DIRECTORY
******************************************************************
        You can now perform the following operations on this phonebook

1. Add a new contact
2. Remove an existing contact
3. Delete all contacts
4. Search for a contact
5. Display all contacts
6. Exit phonebook
Please enter your choice: 5
['prapul', 7799635444, 'prapultivanani@gmail.com', '19-03-2003', 'friend']
['kavya', 8987878687, 'kavyayannam@gmail.com', '11-03-2003', 'friend']
['haripriya', 4567891230, 'haripriyach@gmail.com', '28-01-2002', 'friend']
['dhyaneshwar', 1234567890, 'dhyaneshgaddam@gmail.com', '1-01-2003', 'friend']
******************************************************************
                    SMARTPHONE DIRECTORY
******************************************************************
        You can now perform the following operations on this phonebook
```

You can now perform the following operations on this phonebook

1. Add a new contact
2. Remove an existing contact
3. Delete all contacts
4. Search for a contact
5. Display all contacts
6. Exit phonebook
Please enter your choice: 5
['prapul', 7799635444, 'prapultivanani@gmail.com', '19-03-2003', 'friend']
['kavya', 8987878687, 'kavyayannam@gmail.com', '11-03-2003', 'friend']
['dhyaneshwar', 1234567890, 'dhyaneshgaddam@gmail.com', '1-01-2003', 'friend']
****
                        SMARTPHONE DIRECTORY
****
        You can now perform the following operations on this phonebook

1. Add a new contact
2. Remove an existing contact
3. Delete all contacts
4. Search for a contact
5. Display all contacts
6. Exit phonebook
Please enter your choice: 4
Enter search criteria

        1. Name
2. Number
3. Email-id
4. DOB
5. Category(Family/Friends/Work/Others)
Please enter: 1
Please enter the name of the contact you wish to search: prapul
['prapul', 7799635444, 'prapultivanani@gmail.com', '19-03-2003', 'friend']
****
                        SMARTPHONE DIRECTORY
****
        You can now perform the following operations on this phonebook

1. Add a new contact
2. Remove an existing contact
3. Delete all contacts
4. Search for a contact
5. Display all contacts
6. Exit phonebook
Please enter your choice: 3
****
                        SMARTPHONE DIRECTORY
****
        You can now perform the following operations on this phonebook

1. Add a new contact
2. Remove an existing contact
3. Delete all contacts
4. Search for a contact
5. Display all contacts
6. Exit phonebook
Please enter your choice: 5
List is empty: []
****
                        SMARTPHONE DIRECTORY
****
        You can now perform the following operations on this phonebook

1. Add a new contact
2. Remove an existing contact
3. Delete all contacts
4. Search for a contact
5. Display all contacts
6. Exit phonebook
Please enter your choice: 6
****
Thank you for using our Smartphone directory system.
Please visit again!
****
SystemExit: Goodbye, have a nice day ahead!