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Introduction of Telephone Directory Management System

This project has been made on the topic “Telephone Directory Management System” using the Python programming language.

The everyday tasks of **Telephone Directory Management** keeping record of the Members which is a very tedious task if done manually. Also it becomes very difficult to search for the records in the manual registers.

To increase the efficiency and for the smooth working of the Telephone Directory, this program has been developed, which keeps the records of the Members.

Various options have been added to Add, Display, Modify, Delete and Search the records of the Members.

The data has been stored in Binary files.

Name of the Program:

Telephone_Directory.py

Data files used:

Directory.dat

Introduction of Python

As stated by the official Python website, www.python.org **“Python is a programming language that lets you work more quickly and integrate your systems more effectively. You can learn to use Python and see almost immediate gains in productivity and lower maintenance costs.”**

Python was developed by **Guido van Rossum** in the late eighties and early nineties at the National Research Institute for Mathematics and Computer Science in the Netherlands.

Python is derived from many other languages, including ABC, Modula-3, C, C++, Algol-68, SmallTalk, and Unix shell and other scripting languages.

Python is copyrighted. Python source code is available under the GNU General Public License (GPL).

Python is now maintained by a core development team at the institute, although Guido van Rossum still holds a vital role in directing its progress.

Many of the large organizations that make use of Python include Google, Yahoo, NASA, NetApp, Cisco, Intel, McAfee, Dropbox, VISA, Disney, YouTube, etc.

Python Features (Pluses):

1. **Easy-to-use:** It is a very easy to use language with very simple syntax rules. It is a very high level language and thus very-very programmer friendly.
2. **Expressive language:** It is very easy to express the code's purpose in a fewer lines of code and a simple syntax.
3. **Interpreted language:** Python uses the interpreter, which means python converts the program line by line to machine language and executes it. It makes it easy to debug language and thus suitable for beginners to advanced users.
4. **Its completeness:** When you install Python, you get everything you need to do the work including readymade libraries for diverse functionalities such as emails, web-pages, databases, GUI development, network connections and many more. Thus, it is also called – Python follows “Batteries included” philosophy.
5. **Portable/ Platform independent:** Python can run on a wide variety of hardware platforms and has the same interface on all platforms.
6. **Free & Open Source:** It is freely available to use and its code can be modified as it is an Open Source.
7. **Variety of Usage/ Applications:** Python has evolved into a powerful, complete and useful language over the years and is used for:
 - a. Scripting
 - b. Web Applications
 - c. Game development
 - d. System administration
 - e. Rapid prototyping
 - f. GUI programs
 - g. Database Applications

8. **Automatic garbage collection:** Automatic memory management system frees the programmer from bothering about memory management like allocating and de-allocating memory space.
9. **Easy integration:** It can be easily integrated with other programming languages like C, C++, Java, etc.

Source Code

```
import pickle
import os

class directory:
    #Calling Constructor For Initializing Values

    def __init__(self,id,name,address,age,contact,homeno):
        self.id=id
        self.name=name
        self.add=address
        self.age=age
        self.contact=contact
        self.homeno=homeno

    #Function to get Input from User

    def Input(self):
        print("Enter the Information: ")
        self.id=int(raw_input("Enter The ID: "))
        self.name=raw_input("Enter The Name: ")
        self.add=raw_input("Enter The Address: ")
        self.age=int(raw_input("Enter The Age: "))
        self.contact=int(raw_input("Enter The Mobile Number: "))
        self.homeno=int(raw_input("Enter The Landline Number: "))

    #Function to Print the Output

    def Output(self):
        print "\n"
        print "ID: ",self.id
        print "Name: ",self.name
        print "Address: ",self.add
        print "Age: ",self.age
        print "Mobile Number: ",self.contact
        print "Landline Number: ",self.homeno
```

#Default Values

```
d=directory(0,""," ",0,0,0)
d1=directory(0,""," ",0,0,0)
```

#Function to Store Data in A Binary File by getting Data From the user

```
def Add():
    file=open("Directory.dat","ab")
    d.Input()
    pickle.dump(d,file)
    print"Addtion Successful"
    file.close()
```

#Function to Display Data from the Binary File

```
def Display():
    file=open("Directory.dat","rb")
    try:
        print ("Directory:")
        while True:
            d=pickle.load(file)
            d.Output()
    except EOFError:
        pass
    file.close()
```

#Function to Modify data in the Binary File

```
def Modify():
    file1=open("Directory.dat","rb")
    file2=open("temp.dat","wb")
    print"Enter the ID of the person whose details you want to modify : "
    d1.Input()
    try:
        while True:
            d=pickle.load(file1)
            if d1.id == d.id:
                pickle.dump(d1,file2)
            else:
```

```

        pickle.dump(d,file2)
except EOFError:
    pass
print"Modification Successful!"
file1.close()
file2.close()
os.remove("Directory.dat")
os.rename("temp.dat","Directory.dat")

```

#Function to Delete data in the Binary File

```

def Delete():
    file1=open("Directory.dat","rb")
    file2=open("temp.dat","wb")
    q=int(raw_input("Enter The ID: "))
    try:
        while True:
            d=pickle.load(file1)
            if d.id != q:
                pickle.dump(d,file2)
    except EOFError:
        pass
    print"Deletion Successful!"
    file1.close()
    file2.close()
    os.remove("Directory.dat")
    os.rename("temp.dat","Directory.dat")

```

#Function to Search data in the Binary File

```

def Search():
    file=open("Directory.dat","rb")
    x=int(raw_input("Enter the of the person's ID who you want to search: "))
    found=0
    try:
        while True:
            d=pickle.load(file)
            if d.id==x:
                d.Output()
                found=1
    except EOFError:
        pass

```



```

except EOFError:
    if found==0:
        print"ID not found---->Search Insuccesful!"
    pass
file.close

```

#MAIN

```

while True:
    print "***65," "*3," TELEPHONE DIRECTORY"," "*3,"***65
    print "1.ADMIN MODE" #ADMIN MODE
    print "2.MEMBER MODE" #MEMBER MODE
    c=int(raw_input("Enter Your Choice: ")) #Password Protected File
    if c==1:
        pp=raw_input("Enter Your Password: ")
        if(pp=="playstation"): #Permiting for Entry in ADMIN mode

```

```

    while True:

        print
        print "***166
        print "***166
        print "***70," "*5,"ADMIN MODE"," "*3,"***70
        print "***166
        print "***70," "*5,"MAIN MENU"," "*6,"***70
        print "***70," "*5,"1. Add "," ","***70
        print "***70," "*5,"2. Display "," "*4,"***70
        print "***70," "*5,"3. Search"," "*6,"***70
        print "***70," "*5,"4. Delete"," "*6,"***70
        print "***70," "*5,"5. Modify"," "*6,"***70
        print "***166
        print "***166
        print "\n"
        ch=int(raw_input("Enter a choice: "))
        print "\n"
        if ch==1:
            Add()
        elif ch==2:
            Display()
        elif ch==3:

```

```

        Search()
    elif ch==4:
        Delete()
    elif ch==5:
        Modify()
    else:
        print "YOU ARE OUT OF ADMIN MODE"
        print "\n"
        break
    else:
        print "WRONG PASSWORD---->ACCESS DENIED"
        break
elif c==2:
    # Main Function
    while True: #MEMBER MODE
        print ""*165
        print ""*165
        print ""*75," "5,"MEMBER MODE"," "3,"""*75
        print ""*165
        print ""*75," "5,"MAIN MENU"," "6,"""*75
        print ""*75," "5,"1. Add "," ","""*75
        print ""*75," "5,"2. Display "," "4,"""*75
        print ""*75," "5,"3. Search"," "6,"""*75
        print "Press any other key to exit "
        print ""*165
        print ""*165
        print "\n"
        ch=int(raw_input("Enter a choice: "))
        print "\n"
        if ch==1:
            Add()
        elif ch==2:
            Display()
        elif ch==3:
            Search()

    else:
        print "YOU ARE OUT OF MEMBER MODE"
        print "\n"
        break

```

```
else:  
    print "Thanks for visiting"  
    print "\n"  
    exit()
```

Outputs

```
Python 2.7.4 (default, Apr 6 2013, 19:54:46) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ===== RESTART =====
>>>
***** PANCHSHEEL TELEPHONE DIRECTORY *****
****
1.ADMIN MODE
2.MEMBER MODE
Enter Your Choice1

Python 2.7.4 (default, Apr 6 2013, 19:54:46) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ===== RESTART =====
>>>
***** PANCHSHEEL TELEPHONE DIRECTORY *****
****
1.ADMIN MODE
2.MEMBER MODE
Enter Your Choice1
Enter Your Passwordashurohan

*****
***** ADMIN MODE *****
***** MAIN MENU *****
***** 1. Add *****
***** 2. Display *****
***** 3. Search *****
***** 4. Delete *****
***** 5. Modify *****
*****

Enter a choice:1

Enter the Information
Enter The ID101
Enter The NameAKSHAY BAFNA
Enter The AddressC-569,VAISHALI NAGAR,AJMER
Enter The Age15
Enter The Mobile Number9632587419
Enter The Landline Number0145269873
Addition Successful
Enter Your Password
```

```
Addtion Successful
Addition Password2
WRONG PASSWORD----->ACCESS DENIED
***** PANCHSHEEL TELEPHONE DIRECTORY *****
****
1.ADMIN MODE
2.MEMBER MODE
Enter Your Choice1
Enter Your Passworddashurohan

*****
ADMIN MODE
MAIN MENU
1. Add
2. Display
3. Search
4. Delete
5. Modify

*****

Enter a choice:2


Directory:


ID: 101
Name: AKSHAY BAFNA
Address: C-569,VAISHALI NAGAR,AJMER
Age: 15
Mobile Number: 9632587419
Landline Number: 145269873
Enter Your Password
```

Ln: 70 Col: 19

```

*Python Shell*
File Edit Shell Debug Options Windows Help

Enter a choice:2

Directory:

ID: 101
Name: AKSHAY BAFNA
Address: C-569,VAISHALI NAGAR,AJMER
Age: 15
Mobile Number: 9632587419
Landline Number: 145269873
Enter Your Passwordashurohan

=====
ADMIN MODE
=====
MAIN MENU
1. Add
2. Display
3. Search
4. Delete
5. Modify
=====

Enter a choice:3

Enter the of the person's ID who you want to search101

ID: 101
Name: AKSHAY BAFNA
Address: C-569,VAISHALI NAGAR,AJMER
Age: 15
Mobile Number: 9632587419
Landline Number: 145269873
Enter Your Password

```



```
Python Shell
File Edit Shell Debug Options Windows Help

*****
***** 1. Add *****
*****
***** 2. Display *****
*****
***** 3. Search *****
*****
Press any other key to exit
*****

Enter a choice:2

Directory:

ID: 15
Name: SAMEER SINGH
Address: 15,BALDEV NAGAR,AJMER
Age: 26
Mobile Number: 8523697412
Landline Number: 1256398745
*****
```

```
*****

Enter a choice:3

Enter the of the person's ID who you want to search15

ID: 15
Name: SAMEER SINGH
Address: 15,BALDEV NAGAR,AJMER
Age: 26
Mobile Number: 8523697412
Landline Number: 1256398745
*****
***** MEMBER MODE *****
*****
***** MAIN MENU *****
*****
***** 1. Add *****
*****
***** 2. Display *****
*****
***** 3. Search *****
*****
```

```
Python Shell
File Edit Shell Debug Options Windows Help

Python 2.7.4 (default, Apr 6 2013, 19:54:46) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ***** RESTART *****
>>>
***** PANCHSHEEL TELEPHONE DIRECTORY *****
****
1.ADMIN MODE
2.MEMBER MODE
Enter Your Choice1
Enter Your Password213
WRONG PASSWORD---->ACCESS DENIED
***** PANCHSHEEL TELEPHONE DIRECTORY *****
****
1.ADMIN MODE
2.MEMBER MODE
Enter Your Choice|
```

Bibliography

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- Computer Science with Python Sumita Arora