

Contacts Book:

Description:

Python script used to create contact book, add, delete, update, backup and show it's content

Prerequisites:

- Install python (pip install python)
- Install csv module (pip install python-csv)
- Install boto3 module (pip install boto3)

Code Blocks:

1-importing libraries

- CSV
- OS

```
import csv
from datetime import date
import os #used it to check for file existence in system
```

2- Define global variables

- Today (define today's date in the format if year-month-day)
- Filename (create a variable with a name depends on today's date)

```
today = date.today() #getting today date in the format year-month-day
filename = "ContactBook_" + str(today) + ".csv" #create file name in the desired format
header = ["UserName", "Email", "Phone Numbers", "Address", "Insertion Date"] #csv file header
```

3-code functions

```
#Make sure the user input is in the right format
def input_in_valid_format():...
#checkk if there is a contact book created with today's date
def todays_file_exist():...
#show a list of users in the csv file (first column)
def list_of_users_in_csvFile(file):...
#Welcome function to let the user decide what command he wants to do with the app
def welcome():...
#Depending on user command from welcome function the program flow
def cases(cmd_num):...
#creatin contacts either manually or importing it from a file
def create():...
#update contact info by letting the user eneter the username and all the new updated info
def update():...
#delete the whole user info by getting only his name from the user
def delete():...
#Backup the contacts book on s3 bucket
def backup(file_name, bucket, object_name=None, folder_name=None):...
#show the Contact book
def show():...|
```

4-Functions call and code execution:

```
#check if the file exists or not, and create it if it wasn't
todays_file_exist()
#repeating the processe untill the user doesn't want any other service
while True:
    cmd_num = welcome()
    cases(cmd_num)
    x= input("DO YOU WANT Another Service?(y,n)")
    if x == "y":
        pass
    else:
        break
```

Functions description:

1. `def input_in_valid_format():`

Used in the functions that let the user enter data manually to make sure he enters it in the right format like in functions (create and update)

How it works?

1-Create a forever loop

1.1-take user input and turn it to a list to deal with it easily

1.2-create if condition that checks if the input meets the conditions

1st condition: entered 4 elements separated with comma

2nd condition: the second element contains @ as it must be an email

3rd condition: the third element is all digit as it must be a phone number

1.3-if conditions work break from the loop and go to step -2-

1.4-if conditions were not met print a message to show the problem and go to step -1.1-

```
Your Input is in the wrong format please re enter 4 elements separated with a comma ',' with no spaces
1-UserName(can contain any character)
2-Email(must contain @ symbol)
3-Phone Number(must contain numbers only)
4-Address(can contain any character)
.....
Try Again
.....
```

2-add today date to the new line

3-return the new line from the function

```
2. def todays_file_exist():
```

check whether there is a contacts book with today's date created or not using two libraries

1-os to check file existence on the computer

2-CSV to create one if it didn't exist

How It Works?

1- After running the script isExist variable created it returns True or False

```
isExist = os.path.exists(filename)
```

2- If True print file name and continue in other script functions

3- If False use CSV module to create a new file.csv with the right name then continue in the rest of the script functions

```
3. def list_of_users_in_csvFile(file):
```

It helps in listing the csv file user names and add them into a list instead of writing it every time we need it

Takes one argument (the file we want to list its users)

How it works?

1- Create empty list called names

2- With CSV module open file.csv in read mode

2.1- Skip the first row (header) `next(read)`

3.1- Loop over the rest of the rows and add the first index in names list

3- return names list from the function

```
4. def welcome():
```

1-print some welcome messages and take input from user about which command he wants to execute

2-return the command number

```
WELCOME BACK TO YOUR CONTACT BOOK
=====
What do you need to do?
.....
1-Create New Contact
2-Update Old Contact
3-Delete a Contact
4-Backup Contact Book
5-Show Contact Book
Enter Command Number:
```

5. `def cases(cmd_num):`

take the input from welcome function and direct it to one of the 5 cases in this function

```
#Depending on user command from welcome function the program flow
def cases(cmd_num):
    if cmd_num == "1":
        print("CONTACTS CREATION\n")
        create()
    elif cmd_num == "2":
        print("CONTACTS UPDATE\n")
        update()
    elif cmd_num == "3":
        print("DELETING A CONTACT\n")
        delete()
    elif cmd_num == "4":
        print("BACKUP CONTACT BOOK\n")
        backup(filename, "ahmedadelelsayed") #had a problem running exe file when importing boto3 at the beginning of the main file
    elif cmd_num == "5":
        show()
    else:
        print("You Enterd Wrong Command Number")
```

6. `def create():`

let the user choose how to create data from two options

```
How do you want to add data?
.....
1-Add manually
2-Add from file
ENTER COMMAND NUMBER:
```

- Manual data entry:

```
MANUAL DATA ENTRY
.....
ENTER YOUR CONTACT IN CSV FORMAT
UserName,Email,Number,Address(the insertion date will be added automatically)
```

- 1- take input from user and make sure it's in the right format using `input_in_valid_format()`:
- 2- Open file.csv and add that row and show the added contact

```
MANUAL DATA ENTRY
.....
ENTER YOUR CONTACT IN CSV FORMAT
UserName,Email,Number,Address(the insertion date will be added automatically)
ahmed adel,ahmed@yahoo.com,01111,Mansoura
CONTACT: ['ahmed adel', 'ahmed@yahoo.com', '01111', 'Mansoura', '2023-01-22'] ADDED SUCCESSFULLY
```

- Importing data from another file:

- 1- The user input the imported file name
- 2- Using try except

In try :

- With csv module open the imported file then add it's content to list called date
- Open the original file then copy list data to it

In except:

If any thing went wrong

```
- print(file,"DOESN'T EXISTS")
```

```
=====
CONTACTS CREATION
~~~~~
How do you want to add data?
.....
1-Add manually
2-Add from file
ENTER COMMAND NUMBER:2
.....
IMPORT DATA FROM FILE
.....
Enter File Name with it's extension:data.csv
data.csv DOESN'T EXISTS
```

```
7. def update():
```

Takes the username which to update it's contact from the user and the full update line then update it

How It Works?

- 1- print list with usernames with `def list_of_users_in_csvFile(file):` and ask the user to enter one of them
- 2- there is a if condition to make sure the user exists if not return a message and ask user to enter a valid one again

```
CONTACTS UPDATE
~~~~~
CONTACTS: ['UserName', 'ahmed', 'adel', 'elsayed', '7amoo', 'shousha', 'adool', 'ahmed', 'mahmoud', 'emad', 'omar', 'ahmed adel']
Enter the user you want to update his data from Contacts above:fff
fff DOESN'T EXISTS ENTER A valid ONE
Enter the user you want to update his data from Contacts above:
```

- 3- After entering a valid user name ask the user to enter the new data in full and valid format by passing it to `input_in_valid_format():`
- 4- Define which row was the user name in by looping over the users list and getting the user's index
- 5- Add the rows to the file.csv

```
8. def delete():
```

- 1- print list with usernames with `def list_of_users_in_csvFile(file):` and ask the user to enter one of them to delete
- 2- open the original file
 - 2.1- make sure the input username exists in the users list if not repeat until the user enters a valid one
 - 2.2- add all the rows except the one we want to delete to anew list called updatedlist
- 3- write updated list in file.csv

```

DELETING A CONTACT
CONTACTS: ['ahmed', 'adel', 'elsayed', '7amoo', 'shousha', 'adool', 'ahmed', 'mahmoud', 'emad', 'omar', 'ahmed adel']
Enter the username you want to delete his data from Contacts:ahmed
ahmed Deleted successfully and File has been updated
DO YOU WANT Another Service?(y,n)_

```

9. `def show():`

open the file with csv module and turn I's row in csv format then print it

```

Enter Command Number:5
=====
SHOWING CONTACTS BOOK
ContactBook_2023-01-22.csv
=====
UserName,Email,Phone Numbers,Address,Insertion Date
adel,ee@tt,324,fsf,22-01-23
elsayed,a@yahoo.com,23,Cairo,22-01-23
7amoo,@,432,sdggfg,22-01-23
shousha,fds@fsda,43234,gfsg,22-01-23
adool,sdf@fdf,4234,fsf,22-01-23
mahmoud,@,42342,sdggfg,22-01-23
emad,gg@uu,4234,gfsg,22-01-23
omar,d@,4234,dfsdf,22-01-23
ahmed adel,ahmed@yahoo.com,11111,Mansoura,22-01-23

```

10. `def backup(file_name, bucket, object name=None, folder name=None)`

had a problem in this function:

it works in PyCharm but

import boto3 add the beginning of the code make the exe closes immediately couldn't fix it