Task 1 - Phone Directory

In [ ]:

```
# defining functions

def main(): # main menu
      print('''
          WELCOME!!
    Select:
    [1]. Add new contact
    [2]. Update contact
    [3]. Delete contact
    [4]. Show a given name contact
    [5]. Show all contacts
          ''')
      time.sleep(1)
      menu = input("Enter your option")
      menu = int(menu)

      if menu == 1:
            add_contact()
      elif menu == 2:
            update_contact()
      elif menu == 3:
            delete_contact()
      elif menu == 4:
            y = show_one()
            return y
      elif menu == 5:
            y = show_all()
            return y
      else:
            print("Invalid option entered")
      return



def add_contact():
      ## adding a new contact to contact list
      global contact
      # getting contact details
      full_name = input("Enter your full name: ")
      if full_name in contact.Full_Name.unique():
            print("Name already exists!")
            # print error message and end function
            return

      phone_number = input("Enter your phone number: ")
      # converting phone number to string
      if phone_number in contact.Phone_No.unique():
            print("Phone number already exists!")
            # error message and stop function
            return

      email_address = input("Enter your email address")
      if email_address in contact.Email_Address.unique():
            print("Email address already exists!")
            return

      # creating new df and adding it to contact list
      cl_dict={"Full_Name":[full_name], "Phone_No":[phone_number], "Email_Address":[email_add
      new_cl = pd.DataFrame(cl_dict) # create new df
      contact = pd.concat([contact, new_cl], ignore_index=True)
      return contact

def update_contact():
      global contact
    # editing contact list
    print('''
        What do you want to update?
        [1] Full name
        [2] Phone number
        [3] Email address
        ''')
    time.sleep(1)
    option = input("\nWhat is your option? [1/2/3]")
    option = int(option)
    if option == 1:
        # Updating Full name
        # How do you want to find the contact
        print('''\n
            Provide
            [1] Phone number or
            [2] Email address
            ''')
        time.sleep(1)
        fn = input("\nEnter option [1 or 2]")
        fn = int(fn)

        # getting the desired index, idx based on option chosen
        if fn == 1:
            phone_number = input("Enter phone number:")
            if phone_number in contact.Phone_No.unique():
                # getting the index number
                c = 0 # counter
                for i in contact["Phone_No"] == phone_number:
                    if i == True:
                        idx = c # desired index
                    else:
                        c+=1
            else:
                print("Number not in contacts")
                return
        elif fn == 2:
            email_address = input("Enter email address: ")
            if email_address in contact.Email_Address.unique():
                # getting the index number
                c = 0 # counter
                for i in contact["Email_Address"] == email_address:
                    if i == True:
                        idx = c # desired index
                    else:
                        c+=1
            else:
                print("Email not in contacts!")
                return
        else:
            print("Invalid option!")
            return


        # get update from user
        fullNameUpdate = input("Enter Full Name:")

        # if name already exists, reject
        while fullNameUpdate in contact.Full_Name.unique():
            print("Name already exists!")
            fullNameUpdate = input("Enter Full Name:")

        # update contacts df
        contact.loc[idx,"Full_Name"] = fullNameUpdate
        print("Success!")
        return

    elif option == 2:
        # Updating Phone Number
        # How do you want to find the contact
        print('''\n
            Provide
            [1] Full name or
            [2] Email address
            ''')
        time.sleep(1)
        pn = input("\nEnter option [1 or 2]")
        pn = int(pn)

        # getting the desired index, idx based on option chosen
        if pn == 1:
            full_name = input("Enter Full name:")
            if full_name in contact.Full_Name.unique():
                # getting the index number
                c = 0 # counter
                for i in contact["Full_Name"] == full_name:
                    if i == True:
                        idx = c # desired index
                    else:
                        c+=1
            else:
                print("Name not in contacts")
                return
        elif pn == 2:
            email_address = input("Enter email address: ")
            if email_address in contact.Email_Address.unique():
                # getting the index number
                c = 0 # counter
                for i in contact["Email_Address"] == email_address:
                    if i == True:
                        idx = c # desired index
                    else:
                        c+=1
            else:
                print("Email not in contacts!")
                return
        else:
            print("Invalid option!")
            return

        # get update from user
        phoneNumberUpdate = str(input("Enter Phone Number:"))

        # if phoneNumber already exists, reject
        while phoneNumberUpdate in contact.Phone_No.unique():
            print("Phone Number already exists")
            phoneNumberUpdate = str(input("Enter Phone Number:"))

        # update contacts df
        contact.loc[idx,"Phone_No"] = phoneNumberUpdate
        print("Success!")
        return

    elif option == 3:
        # Updating Email address
        # How do you want to find the contact
        print('''\n
            Provide
            [1] Full name or
            [2] Phone number
            ''')
        time.sleep(1)
        ea = input("\nEnter option [1 or 2]")
        ea = int(ea)

        # getting the desired index, idx based on option chosen
        if ea == 1:
            full_name = input("Enter Full name:")
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            if full_name in contact.Full_Name:
                # getting the index number
                c = 0 # counter
                for i in contact["Full_Name"] == full_name:
                    if i == True:
                        idx = c # desired index
                    else:
                        c+=1
            else:
                print("Name not in contacts")
                return
        elif ea == 2:
            phone_number = input("Enter phone number:")
            if phone_number in contact.Phone_No:
                # getting the index number
                c = 0 # counter
                for i in contact["Phone_No"] == phone_number:
                    if i == True:
                        idx = c # desired index
                    else:
                        c+=1
            else:
                print("Number not in contacts")
                return
        else:
            print("Invalid option!")
            return

        # get update from user
        emailAddressUpdate = input("Enter Email address:")

        # if email address exists, reject
        while emailAddressUpdate in contact.Email_Address.unique():
            print("Email Address already exists in contact list")
            emailAddressUpdate = input("Enter Email address:")

        # update contacts df
        contact.loc[idx,"Email_Address"] = emailAddressUpdate
        print("Success!")
        return
    else:
        print("Invalid option selected!")
        return

def delete_contact():  # deleting contact from list
    global contact
    delRef = input("Enter name of contact you want to delete: ")
    if delRef in contact.Full_Name.unique():
        # getting the index number
        c = 0 # counter
        for i in contact['Full_Name'] == delRef:
            if i == True:
                idx = c # desired index
            else:
                c+=1

        # drop desired index
        contact = contact.drop(idx)
        contact = contact.reset_index(drop=True)
        print("Successful!")
        return
    else:
        print("Contact not found :(")

def show_one(): # show one contact detail
    global contact
    print('''
        Search by;
        [1] Full name
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            [2] Phone No
            [3] Email Address
            ''')
      display = input("Enter your option [1/2/3]")
      display = int(display)
      # initializing empty df to store results
      results = pd.DataFrame()

      if display == 1: # assessing input
            name = input("Enter name of contact: ")
            # user might enter full name or just first/last name
            for i in np.arange(len(contact)):
                  if name == contact.loc[i,'Full_Name']: # if full name is entered and is fou
                        # get entire row and store in results in df
                        dex = contact.iloc[[i]]
                        results = pd.concat([results,dex],ignore_index=True)
                  elif name in contact.loc[i,'Full_Name'].split():
                        # if just one name is entered and it's part of a stored full name
                        dex = contact.iloc[[i]]
                        results = pd.concat([results,dex], ignore_index=True)
            if len(results) == 0: # if no result is found
                  print("Name not found!")
                  return
            return results
      elif display == 2:
            phone = input("Enter phone number: ")
            for i in np.arange(len(contact)):
                  if phone == contact.loc[i,"Phone_No"]:
                        dex = contact.iloc[[i]]
                        results = pd.concat([results,dex],ignore_index=True)
            if len(results) == 0:
                  print("Number not found!")
                  return
            return results
      elif display == 3:
            email_id = input("Enter email address: ")
            for i in np.arange(len(contact)):
                  if email_id == contact.loc[i,"Email_Address"]:
                        dex = contact.iloc[[i]]
                        results = pd.concat([results,dex],ignore_index=True)
            if len(results) == 0:
                  print("Email address not found!")
                  return
            return results
      else:
            print("Invalid option entered!")

def show_all(): ## show all contacts
      if len(contact) == 0:
            print("There is no data in contact list")
      else:
            return contact
```

In [ ]:

```
# defining Phone directory function
contact = pd.DataFrame({"Full_Name":[],"Phone_No":[],"Email_Address":[]})
import pandas as pd
import numpy as np
import time
import warnings

# Suppressing 'FutureWarning' warnings
warnings.simplefilter(action='ignore', category=FutureWarning)

def phoneDirectory():
      '''
      Create a phone directory with menu
      1. Add new contact
      2. Update contact
      3. Delete contact
      4. Show a given name contact
      5. Show all contact
      '''
      # import needed libraries


      x = main() # displaying menu

      return x
```

In [ ]:

```
phoneDirectory()
```

```
          WELCOME!!
    Select:
    [1]. Add new contact
    [2]. Update contact
    [3]. Delete contact
    [4]. Show a given name contact
    [5]. Show all contacts
```

Out[ ]:

	Full_Name	Phone_No	Email_Address
0	Ben Gracison	123456	bengrace@gmail.com
1	Thomas Shelby	008355466	tommy@shelbycorp.com
2	Charles Xavier	778895656	professorX@xmen.com