import pandas as pd

from datetime import datetime

class Permise:

def \_\_init\_\_(self, data):

self.data = data

def lista\_permiselor\_suspendate(self):

permise\_suspendate = [permise for permise in self.data if permise['suspendat']]

return permise\_suspendate

def extract\_permise\_valide(self):

today = datetime.today().strftime('%d/%m/%Y')

permise\_valide = [permise for permise in self.data if datetime.strptime(permise['dataDeExpirare'], '%d/%m/%Y') >= datetime.strptime(today, '%d/%m/%Y')]

return permise\_valide

def gasire\_permise\_dupa\_categorii(self):

permise\_numarate = {}

for permise in self.data:

categorie = permise['categorie']

if categorie in permise\_numarate:

permise\_numarate[categorie] += 1

else:

permise\_numarate[categorie] = 1

return permise\_numarate

def salvare\_excel(self, data, filename):

df = pd.DataFrame(data)

df.to\_excel(filename, index=False)

sample\_data = [

{"id":1,"nume":"Gheorghe","prenume":"Ana","categorie":"D1","dataDeEmitere":"29/07/2014","dataDeExpirare":"26/07/2024","suspendat":False},

{"id":2,"nume":"Ungureanu","prenume":"Cristina","categorie":"BE","dataDeEmitere":"14/08/2013","dataDeExpirare":"12/08/2023","suspendat":True},

{"id":3,"nume":"Radu","prenume":"Alexandru","categorie":"C1","dataDeEmitere":"27/12/2011","dataDeExpirare":"24/12/2021","suspendat":False},

{"id":4,"nume":"Stoica","prenume":"Mihai","categorie":"B","dataDeEmitere":"19/11/2018","dataDeExpirare":"16/11/2028","suspendat":False},

{"id":5,"nume":"Marin","prenume":"Elena","categorie":"C1","dataDeEmitere":"10/09/2016","dataDeExpirare":"08/09/2026","suspendat":True},

{"id":6,"nume":"Stoica","prenume":"Alexandru","categorie":"D1E","dataDeEmitere":"12/12/2017","dataDeExpirare":"10/12/2027","suspendat":True},

{"id":7,"nume":"Tudor","prenume":"Ana","categorie":"C1","dataDeEmitere":"18/09/2021","dataDeExpirare":"16/09/2031","suspendat":False},

{"id":8,"nume":"Ionescu","prenume":"Raluca","categorie":"D1E","dataDeEmitere":"30/01/2019","dataDeExpirare":"27/01/2029","suspendat":False},

{"id":9,"nume":"Dumitrescu","prenume":"Alexandru","categorie":"D1","dataDeEmitere":"14/04/2023","dataDeExpirare":"11/04/2033","suspendat":False},

{"id":10,"nume":"Ungureanu","prenume":"Mihai","categorie":"D","dataDeEmitere":"23/06/2016","dataDeExpirare":"21/06/2026","suspendat":False},

{"id":11,"nume":"Ungureanu","prenume":"Mihai","categorie":"C1","dataDeEmitere":"28/01/2013","dataDeExpirare":"26/01/2023","suspendat":False},

{"id":12,"nume":"Neagu","prenume":"Maria","categorie":"BE","dataDeEmitere":"07/08/2013","dataDeExpirare":"05/08/2023","suspendat":False},

{"id":13,"nume":"Marin","prenume":"Ion","categorie":"D","dataDeEmitere":"20/05/2022","dataDeExpirare":"17/05/2032","suspendat":True},

{"id":14,"nume":"Ionescu","prenume":"Elena","categorie":"D1","dataDeEmitere":"05/11/2011","dataDeExpirare":"02/11/2021","suspendat":False},

{"id":15,"nume":"Neagu","prenume":"Laura","categorie":"D","dataDeEmitere":"28/07/2011","dataDeExpirare":"25/07/2021","suspendat":False},

{"id":16,"nume":"Neagu","prenume":"Alexandru","categorie":"DE","dataDeEmitere":"26/01/2020","dataDeExpirare":"23/01/2030","suspendat":True},

{"id":17,"nume":"Dumitrescu","prenume":"Raluca","categorie":"D","dataDeEmitere":"28/12/2017","dataDeExpirare":"26/12/2027","suspendat":True},

{"id":18,"nume":"Popescu","prenume":"Gabriel","categorie":"C1E","dataDeEmitere":"23/12/2013","dataDeExpirare":"21/12/2023","suspendat":False},

{"id":19,"nume":"Mihai","prenume":"Gabriel","categorie":"D1E","dataDeEmitere":"01/05/2018","dataDeExpirare":"28/04/2028","suspendat":False},

{"id":20,"nume":"Popescu","prenume":"Alexandru","categorie":"B","dataDeEmitere":"26/06/2016","dataDeExpirare":"24/06/2026","suspendat":False},

{"id":21,"nume":"Stan","prenume":"Alexandru","categorie":"D1E","dataDeEmitere":"05/11/2020","dataDeExpirare":"03/11/2030","suspendat":False},

{"id":22,"nume":"Tudor","prenume":"Bogdan","categorie":"DE","dataDeEmitere":"28/11/2018","dataDeExpirare":"25/11/2028","suspendat":False},

{"id":23,"nume":"Mihai","prenume":"Maria","categorie":"B","dataDeEmitere":"23/06/2019","dataDeExpirare":"20/06/2029","suspendat":True},

{"id":24,"nume":"Popa","prenume":"Florin","categorie":"CE","dataDeEmitere":"06/05/2021","dataDeExpirare":"04/05/2031","suspendat":True},

{"id":25,"nume":"Popa","prenume":"Adrian","categorie":"D1","dataDeEmitere":"05/04/2022","dataDeExpirare":"02/04/2032","suspendat":True},

{"id":26,"nume":"Vasile","prenume":"Florin","categorie":"D1","dataDeEmitere":"25/03/2014","dataDeExpirare":"22/03/2024","suspendat":False},

{"id":27,"nume":"Tudor","prenume":"Ioana","categorie":"D1","dataDeEmitere":"05/01/2013","dataDeExpirare":"03/01/2023","suspendat":True},

{"id":28,"nume":"Popa","prenume":"Ioana","categorie":"C1","dataDeEmitere":"18/10/2011","dataDeExpirare":"15/10/2021","suspendat":False},

{"id":29,"nume":"Stan","prenume":"Laura","categorie":"CE","dataDeEmitere":"24/07/2013","dataDeExpirare":"22/07/2023","suspendat":False},

{"id":30,"nume":"Gheorghe","prenume":"Laura","categorie":"B1","dataDeEmitere":"12/03/2023","dataDeExpirare":"09/03/2033","suspendat":False}]

permise = Permise(sample\_data)

operation\_id = int(input("Introdu ID-ul de operare (1 pentru lista permiselor suspendate, 2 pentru extragerea permiselor valide, 3 pentru gasirea permiselor in functie de categorie si numar): "))

if operation\_id == 1:

permise\_suspendate = permise.lista\_permiselor\_suspendate()

permise.salvare\_excel(permise\_suspendate, 'permise\_suspendate.xlsx')

elif operation\_id == 2:

permise\_valide = permise.extract\_permise\_valide()

permise.salvare\_excel(permise\_valide, 'permise\_valide.xlsx')

elif operation\_id == 3:

permise\_numarate = permise.gasire\_permise\_dupa\_categorii()

permise.salvare\_excel(permise\_numarate.items(), 'permise\_numarate.xlsx')