import pandas as pd

import io

import glob

import os

import datetime

import openpyxl

import xlsxwriter

from openpyxl import load\_workbook

from openpyxl import Workbook

from pandas import ExcelWriter

from pandas import Series

from openpyxl.drawing.image import Image

import shutil

import numpy as np

from csv import reader

os.chdir('/Users/kinnaripatel/Desktop/k/MyProjects')

xls = pd.ExcelFile('/Users/kinnaripatel/Desktop/k/AdherencePost/file\_0831/Logan\_Health\_Whitefish\_Lung\_Adherence\_final.xlsx')

df1 = pd.read\_excel(xls, 'Data\_All Patients')

df2 = pd.read\_excel(xls, 'Data\_High Risk Patients')

#getting site name as string from excel file name

df = os.path.basename(xls)

#print(df)

df=df.replace("\_", " ")

string = df

dff=string.rpartition('Adherence')[0]

#print(dff)

dff=dff.upper()

#print(dff)

filename=dff

#print(filename)

def aggregate(data):

data = {'Early Return' : data[data.adherencetype == 'Early Return'],

'On Time Return' : data[data.adherencetype == 'On Time Return'],

'No Return' : data[data.adherencetype == 'No Return'],

'Late Return' : data[data.adherencetype == 'Late Return']}

result = {}

for key, value in data.items():

result[key] = len(value)

return Series(result)

def period\_size(size) :

if (str(size) == '2022Q1'):

return "Previous Quarter"

if (str(size)=='2022Q2'):

return "current Quarter"

def period\_size1(size) :

if (str(size) in ['2021Q3','2021Q4','2022Q1','2022Q2']):

return "12 months"

#all patients

df1.loc[df1["adherence"]=="premature" , 'adherencetype'] ="Early Return"

df1.loc[df1["adherence"]=="adherent" , 'adherencetype'] ="On Time Return"

df1.loc[df1["adherence"] == "no-followup" , 'adherencetype'] = "No Return"

df1.loc[df1["adherence"] == "overdue" , 'adherencetype'] = "Late Return"

#High-Risk patients

df2.loc[df2["adherence"]=="premature" , 'adherencetype'] ="Early Return"

df2.loc[df2["adherence"]=="adherent" , 'adherencetype'] ="On Time Return"

df2.loc[df2["adherence"] == "no-followup" , 'adherencetype'] = "No Return"

df2.loc[df2["adherence"] == "overdue" , 'adherencetype'] = "Late Return"

#applied aggregate function(all patients )

df1['AdherenceSummary'] = df1["quarter"].apply(period\_size)

df1['AdherenceSummaryY'] = df1["quarter"].apply(period\_size1)

DF\_AP\_df\_aggregated = df1.groupby('AdherenceSummary').apply(aggregate)

DF\_AP\_df\_aggregated1 = df1.groupby('AdherenceSummaryY').apply(aggregate)

#concate two functions output periodsize1,periodsize(all patients )

AP\_df\_aggregated = pd.concat([DF\_AP\_df\_aggregated, DF\_AP\_df\_aggregated1], ignore\_index=True)

#print(AP\_df\_aggregated)

#applied aggregate function (High-Risk patients )

df2['AdherenceSummary'] = df2["quarter"].apply(period\_size)

df2['AdherenceSummaryY'] = df2["quarter"].apply(period\_size1)

DF2\_AP\_df\_aggregated = df2.groupby('AdherenceSummary').apply(aggregate)

DF2\_AP\_df\_aggregated1 = df2.groupby('AdherenceSummaryY').apply(aggregate)

#concate two functions output periodsize1,periodsize(High-Risk patients )

AP\_df\_aggregated2 = pd.concat([DF2\_AP\_df\_aggregated, DF2\_AP\_df\_aggregated1], ignore\_index=True)

#print(AP\_df\_aggregated2)

#using transpose for all patients and High-Risk patients

tdf1= AP\_df\_aggregated.T.reset\_index()

tdf2= AP\_df\_aggregated2.T.reset\_index()

#resetting index

tdf1=tdf1.set\_index('index')

tdf2=tdf2.set\_index('index')

#adding total

tdf1.loc['Total',:]= tdf1.sum(axis=0)

tdf2.loc['Total',:]= tdf2.sum(axis=0)

#Renaming column index name

tdf1 = tdf1.rename(columns={0: 'Previous Quarter',1:'current Quarter',2:'12 months'})

tdf2 = tdf2.rename(columns={0: 'Previous Quarter',1:'current Quarter',2:'12 months'})

#percentage calculation for all patients

AP\_df\_aggregated.loc[:,'Total'] = AP\_df\_aggregated.sum(axis=1)

AP\_df\_aggregated['On-Time Return%']= (AP\_df\_aggregated['Early Return']+AP\_df\_aggregated['On Time Return'])/AP\_df\_aggregated['Total']

AP\_df\_aggregated['No Return%']=AP\_df\_aggregated['No Return']/AP\_df\_aggregated['Total']

AP\_df\_aggregated['Late Return%']=AP\_df\_aggregated['Late Return']/AP\_df\_aggregated['Total']

AP\_df\_aggregated['Successful Return%']= (AP\_df\_aggregated['Early Return']+AP\_df\_aggregated['On Time Return']+AP\_df\_aggregated['Late Return'])/AP\_df\_aggregated['Total']

#dropping columns for all patients

AP\_df\_aggregated.drop(['Early Return', 'On Time Return','Total','No Return','Late Return'], axis=1,inplace=True)

#using transpose

tdf3= AP\_df\_aggregated.T.reset\_index()

tdf3=tdf3.set\_index('index')

#percentage calculation for High-risk patients

AP\_df\_aggregated2.loc[:,'Total'] = AP\_df\_aggregated2.sum(axis=1)

AP\_df\_aggregated2['On-Time Return%']= (AP\_df\_aggregated2['Early Return']+AP\_df\_aggregated2['On Time Return'])/AP\_df\_aggregated2['Total']

AP\_df\_aggregated2['No Return%']=AP\_df\_aggregated2['No Return']/AP\_df\_aggregated2['Total']

AP\_df\_aggregated2['Late Return%']=AP\_df\_aggregated2['Late Return']/AP\_df\_aggregated2['Total']

AP\_df\_aggregated2['Successful Return%']= (AP\_df\_aggregated2['Early Return']+AP\_df\_aggregated2['On Time Return']+AP\_df\_aggregated2['Late Return'])/AP\_df\_aggregated2['Total']

#dropping columns for high-risk patients

AP\_df\_aggregated2.drop(['Early Return', 'On Time Return','Total','No Return','Late Return'], axis=1,inplace=True)

#using transpose

tdf4= AP\_df\_aggregated2.T.reset\_index()

tdf4=tdf4.set\_index('index')

#rename columns for high risk and total percentage

tdf3 = tdf3.rename(columns={0: 'Previous Quarter',1:'current Quarter',2:'12 months'})

tdf4 = tdf4.rename(columns={0: 'Previous Quarter',1:'current Quarter',2:'12 months'})

#copying the excel format from Adherence11 to Adherence1

src\_dir="/Users/kinnaripatel/Desktop/k/MyProjects/Adherence11.xlsx"

dst\_dir="/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx"

shutil.copy(src\_dir,dst\_dir)

#ordering column to match the ecoe format

tdf1 = tdf1[['current Quarter', 'Previous Quarter', '12 months']]

tdf2 = tdf2[['current Quarter', 'Previous Quarter', '12 months']]

tdf3 = tdf3[['current Quarter', 'Previous Quarter', '12 months']]

tdf4 = tdf4[['current Quarter', 'Previous Quarter', '12 months']]

#removing index header as 'index'

tdf2.rename\_axis('', inplace = True)

tdf4.rename\_axis('', inplace = True)

print(tdf1)

print(tdf2)

print(tdf3)

print(tdf4)

print (tdf1.index.name)

tdf1 = tdf1.reset\_index(drop=True)

tdf3 = tdf3.reset\_index(drop=True)

tdf3.insert(0, "ECOE Benchmark", ['TBD', 'TBD', 'TBD', 'TBD'], True)

tdf3.insert(4, "ECOE Average", ['TBD', 'TBD', 'TBD', 'TBD'], True)

tdf4.insert(0, "ECOE Benchmark", ['TBD', 'TBD', 'TBD', 'TBD'], True)

tdf4.insert(4, "ECOE Average", ['TBD', 'TBD', 'TBD', 'TBD'], True)

tdf3.rename(columns={'ECOE Benchmark':'','ECOE Average':''}, inplace=True)

tdf4.rename(columns={'ECOE Benchmark':'','ECOE Average':''}, inplace=True)

with pd.ExcelWriter('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx', engine='openpyxl',mode='a',if\_sheet\_exists='overlay') as writer:

tdf1.to\_excel(writer, sheet\_name = 'Totals', startrow=32 , startcol=6,float\_format='%.2f',index=False, header=None)

tdf2.to\_excel(writer, sheet\_name = 'Totals',startrow=32, startcol=2,float\_format='%.2f',header=None)

tdf3.to\_excel(writer, sheet\_name = 'Totals',startrow=12, startcol=8,float\_format='%.2f',index=False,header=None)

tdf4.to\_excel(writer, sheet\_name = 'Totals',startrow=12, startcol=2,float\_format='%.2f',header=None)

#Adding string dff to loaded excel

wb=load\_workbook('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx')

ws=wb.active

ws['D4']=dff

wb.save('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx')

#Adding png file to excel (first loaded formated excel and then added the png)

wb=load\_workbook('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx')

ws=wb.active

img=Image('/Users/kinnaripatel/Desktop/k/MyProjects/A2.png')

ws.add\_image(img,'G1')

wb.save('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx')

#Adding jpg file to excel(first loaded formated excel and then added the jpg)

wb=load\_workbook('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx')

ws=wb.active

img=Image('/Users/kinnaripatel/Desktop/k/MyProjects/A1.jpg')

ws.add\_image(img,'K29')

wb.save('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx')

#Adding jpg file to excel(first loaded formated excel and then added the jpg)

wb=load\_workbook('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx')

ws=wb.active

img=Image('/Users/kinnaripatel/Desktop/k/MyProjects/A3.jpg')

ws.add\_image(img,'B42')

wb.save('/Users/kinnaripatel/Desktop/k/MyProjects/Adherence1.xlsx')

newname = filename+'\_ECOE'+'.xlsx'

os.rename('Adherence1.xlsx', newname)