Problem 7

import pandas as pd

def big\_countries(world: pd.DataFrame) -> pd.DataFrame:

    world = world[(world['area'] >= 3000000) | (world['population'] >= 25000000)]

    world = world[['name','population','area']]

    print(world)

    return world

Problem 8

import pandas as pd

def find\_products(products: pd.DataFrame) -> pd.DataFrame:

    filtered\_products = products[(products['low\_fats'] == 'Y') & (products['recyclable'] == 'Y')]

    return pd.DataFrame({'product\_id':filtered\_products['product\_id']})

Problem 9

import pandas as pd

def find\_customers(customers: pd.DataFrame, orders: pd.DataFrame) -> pd.DataFrame:

    df = customers.merge(orders,left\_on='id',right\_on='customerId',how='left')

    new\_df=df[df['customerId'].isna()]

    new\_df.rename(columns={'name':'Customers'},inplace=True)

    print(new\_df)

    return new\_df[['Customers']]