import pandas as pd

from collections import defaultdict

import matplotlib.pyplot as plt

def load\_data(file\_path):

try:

return pd.read\_csv(file\_path, encoding='latin1')

except Exception as e:

print(f"Error loading data: {e}")

exit(1)

def mapper(dataset):

year\_counts = defaultdict(int)

for year in dataset['Year']:

year\_counts[year] += 1

return year\_counts

def reducer(mapped\_data):

reduced\_counts = defaultdict(int)

for year, count in mapped\_data.items():

reduced\_counts[year] += count

return reduced\_counts

if \_\_name\_\_ == "\_\_main\_\_":

file\_path = "C:/Users/HP/Desktop/emc java/monroe county car crach 2003-2015.csv"

data = load\_data(file\_path)

mapped\_data = mapper(data)

crashes\_per\_year = reducer(mapped\_data)

sorted\_crashes\_per\_year = sorted(crashes\_per\_year.items(), key=lambda x: x[0])

years, counts = zip(\*sorted\_crashes\_per\_year)

plt.figure(figsize=(10, 6))

plt.bar(years, counts, color='skyblue')

plt.title("Number of Car Crashes Per Year (2003-2015)", fontsize=16)

plt.xlabel("Year", fontsize=12)

plt.ylabel("Number of Crashes", fontsize=12)

plt.xticks(years, rotation=45)

plt.tight\_layout()

output\_path = "C:/Users/HP/Desktop/emc java/crashes\_per\_year.png"

plt.savefig(output\_path)

plt.show()

print(f"Bar chart saved to: {output\_path}")