import pandas as pd

import matplotlib.pyplot as plt

from scipy.stats import linregress

def draw\_plot():

# Read data

df = pd.read\_csv('epa-sea-level.csv')

# Scatter plot

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

plt.scatter(df['Year'], df['CSIRO Adjusted Sea Level'], alpha=0.6)

# Linear regression and prediction for 1880-2050

slope, intercept, r\_value, p\_value, std\_err = linregress(df['Year'], df['CSIRO Adjusted Sea Level'])

plt.plot(df['Year'], slope\*df['Year'] + intercept, 'r', label='Linear Fit (1880-2050)')

# Linear regression and prediction for 2000-2050

recent\_years = df[df['Year'] >= 2000]

slope\_recent, intercept\_recent, \_, \_, \_ = linregress(recent\_years['Year'], recent\_years['CSIRO Adjusted Sea Level'])

plt.plot(recent\_years['Year'], slope\_recent\*recent\_years['Year'] + intercept\_recent, 'g', label='Linear Fit (2000-2050)')

# Predicting sea level in 2050

plt.plot(2050, slope\*2050 + intercept, marker='o', markersize=8, color='blue')

plt.plot(2050, slope\_recent\*2050 + intercept\_recent, marker='o', markersize=8, color='blue')

plt.xlabel('Year')

plt.ylabel('Sea Level (inches)')

plt.title('Rise in Sea Level')

plt.legend()

# Save plot and return

plt.savefig('sea\_level\_rise.png')

plt.show()

if \_\_name\_\_ == '\_\_main\_\_':

draw\_plot()