import matplotlib.pyplot as plt

import numpy as np

def quadratic\_model(m,time):

  #hard-coded coefficients for the quation

  a = m[0]

  b = m[0]

  c = m[0]

  #quadratic eq representing temp change

  temperature = a\*(time\*\*2)+b\*time+c

  return temperature

def main() :

  lst = [(34,5,45),(-6,0,21),(23,-50,-7),(23,-50,8)]

  #time values from 0 to 10

  time\_values = np.linspace(0,10,50)

  #calculate temperature using hardcoded variables

  temperature\_hardcoded = quadratic\_model(lst[0],time\_values)

  plt.plot(time\_values,temperature\_hardcoded,label = 'Set1')

  temperature\_hardcoded = quadratic\_model(lst[1],time\_values)

  plt.plot(time\_values,temperature\_hardcoded,label = 'Set2')

  temperature\_hardcoded = quadratic\_model(lst[2],time\_values)

  plt.plot(time\_values,temperature\_hardcoded,label = 'Set3')

  plt.xlabel('Time')

  plt.ylabel('Temperature')

  plt.legend()

  plt.grid()

  plt.title('Weather modelling with quadratic Equation(Multiple Coefficients) ')

  plt.show()

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

  main()

