import numpy as np

def pearson\_correlation\_coefficient(x, y):

# calculate means and standard deviations

x\_mean = np.mean(x)

y\_mean np.mean(y)

x\_std np.std(x)

y\_std np.std(y)

# calculate covariance

covariance np.sum((xx\_mean) (yy\_mean)) / len(x)

# calculate Pearson's correlation coefficient

r = covariance / (x\_stdy\_std)

return r

x = np.array([1, 2, 3, 4, 5])

y = np.array([2, 4, 6, 8, 10])

r = pearson\_correlation\_coefficient(x, y)

print("Pearson's correlation coefficient: ", r)