Paired T – test

Program:

import numpy as np

from scipy import stats

import pandas as pd

alpha = 0.05

before\_tuning = [70, 75, 80, 82, 78, 85, 83, 77, 74, 79]

after\_tuning = [78, 80, 85, 88, 83, 90, 89, 82, 80, 86]

t\_stat, p\_value = stats.ttest\_rel(before\_tuning, after\_tuning)

print(f"T-statistic: {t\_stat}")

print(f"P-value: {p\_value}")

if p\_value < alpha:

    print("There is a significant difference between the before and after performance (reject H0).")

else:

    print("There is no significant difference between the before and after performance (fail to reject H0).")

output:

T-statistic: -5.741978695179742

P-value: 0.00021542350254357943

There is a significant difference between the before and after performance (reject H0).