AI-ML ASSIGNMENT DAY-10

import pandas as pd

import statsmodels.api as sm

from statsmodels.formula.api import ols

dataset=pd.read\_excel("ANCOVA1.xlsx",sheetname=0)

dataset.head()

Out[41]:

Store Number Sales Promotion Coupon ClietelRatings

0 1 10 1 1 9

1 2 9 1 1 10

2 3 10 1 1 8

3 4 8 1 1 4

4 5 9 1 1 6

model=ols('Sales~C(Promotion)',dataset).fit()

oneway=sm.stats.anova\_lm(model,typ=2)

print(oneway)

sum\_sq df F PR(>F)

C(Promotion) 106.066667 2.0 17.943609 0.000011

Residual 79.800000 27.0 NaN NaN

model=ols('Sales~C(Promotion)\*C(Coupon)',dataset).fit()

twoway=sm.stats.anova\_lm(model,typ=2)

print(twoway)

sum\_sq df F PR(>F)

C(Promotion) 106.066667 2.0 54.862069 1.116908e-09

C(Coupon) 53.333333 1.0 55.172414 1.143879e-07

C(Promotion):C(Coupon) 3.266667 2.0 1.689655 2.058092e-01

Residual 23.200000 24.0 NaN NaN