PRACTICAL 7

Q1. Regression with T-test: Using the teachers rating data set, does gender affect teaching evaluation rates?

The output should be:

[5]:

OLS Regression Results

Dep. Variable:	eval	**R-squared:**	0.022
Model:	OLS	**Adj. R-squared:**	0.020
Method:	Least Squares	**F-statistic:**	10.56
Date:	Sat, 28 Sep 2024	**Prob (F-statistic):**	0.00124
Time:	11:10:49	**Log-Likelihood:**	-378.50
No. Observations:	463	**AIC:**	761.0
Df Residuals:	461	**BIC:**	769.3
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	4.0690	0.034	121.288	0.000	4.003	4.135
female	-0.1680	0.052	-3.250	0.001	-0.270	-0.066

Omnibus:	17.625	**Durbin-Watson:**	1.209
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	18.970
Skew:	-0.496	**Prob(JB):**	7.60e-05
Kurtosis:	2.981	**Cond. No.**	2.47

Q2. Regression with ANOVA: Using the teachers' rating data set, does beauty score for instructors differ by age?

The output should be:

	df	sum_sq	mean_sq	F	PR(>F)
age_group	**2.0**	**20.422744**	**10.211372**	**17.597559**	**4.322549e-08**

Q3. Correlation: Using the teachers' rating dataset, Is teaching evaluation score correlated with beauty score?¶

The output should be:

OLS Regression Results

Dep. Variable:	eval	**R-squared:**	0.036
Model:	OLS	**Adj. R-squared:**	0.034
Method:	Least Squares	**F-statistic:**	17.08
Date:	Sat, 28 Sep 2024	**Prob (F-statistic):**	4.25e-05
Time:	11:20:13	**Log-Likelihood:**	-375.32
No. Observations:	463	**AIC:**	754.6
Df Residuals:	461	**BIC:**	762.9
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	3.9983	0.025	157.727	0.000	3.948	4.048
beauty	0.1330	0.032	4.133	0.000	0.070	0.196

Omnibus:	15.399	**Durbin-Watson:**	1.238
Prob(Omnibus):	0.000	**Jarque-Bera (JB):**	16.405
Skew:	-0.453	**Prob(JB):**	0.000274
Kurtosis:	2.831	**Cond. No.**	1.27