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/Users/bps/PycharmProjects/regression_anova/venv/bin/python /Users/bps/PycharmProjects/regression_anova/main
.py
Welcome to Regression,Correlation, Anova Calculator

1.Regression
2.Correlation
3.One Way Anova
4.Two Way Anova
3


3.One Way Anova

Enter the No of Groups: 4
Level of significance: 0.05


Enter the Group 1 samples
0.25 0.27 0.22 0.30 0.27 0.28 0.32 0.24 0.31 0.26 0.22 0.28
Enter the Group 2 samples
0.18 0.28 0.21 0.23 0.25 0.20 0.27 0.19 0.24 0.22 0.29 0.16
Enter the Group 3 samples
0.19 0.25 0.27 0.24 0.18 0.26 0.28 0.24 0.25 0.20 0.21 0.19
Enter the Group 4 samples
0.23 0.30 0.28 0.28 0.24 0.34 0.20 0.18 0.24 0.28 0.22 0.21

k (No of Groups) = 4
N (Total no of Samples in all Groups) = 48
ni (No of Samples in each Groups) = [12, 12, 12, 12]

Ti (Sum of Samples in each Groups) = [3.22, 2.72, 2.76, 3.0]
T (Sum of Samples in all Groups) = 11.7
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C (T^2 /N) = 2.85187

SS(Tr) = 0.01349
SSE = 0.06684
SST = 0.08033

MS(Tr) (SS(Tr)/(k-1)) = 0.0045
MSE (SSE/(N-k)) = 0.00152

F (MS(Tr)/MSE) = 2.961

Source of variation	Degree of freedom	Sum of square	Mean square	F
Treatments	k-1 =3	SS(Tr) = 0.01349	MS(Tr) = 0.0045	2.961
Error	N-k =44	SS(Tr) = 0.06684	MS(Tr) = 0.00152	
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Total	N-1 =47	SST = 0.08033		

Testing μ1≠μ2≠μ3≠μ4 the alternative Hypothesis to test with null μ1=μ2=μ3=μ4

The null must be rejected if F>2.8165

Calculations

F = 2.961

Decision

Null μ1=μ2=μ3=μ4 must be Rejected at level of significance 0.05 and Accept μ1≠μ2≠μ3≠μ4

Process finished with exit code 0