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/Users/bps/PycharmProjects/hypothesis_testing/venv/bin/python /Users/bps/PycharmProjects/hypothesis_testing/main.py
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Welcome to the Hypothesis Testing calculator made by ALIAS GEORGE

Select the Calculator (type the no corresponding eg 1 for one mean Large sample)

1. One Mean Large sample $n > 30$
 2. One Mean Small sample (σ unknown)
 3. Two Mean Large sample $n_1, n_2 > 30$
 4. Two Mean Small sample with both normal and $\sigma_1 = \sigma_2$
 5. Matched Pair t-Test
 6. One Variance Test
 7. Two Variance Test
 8. One Proportion Test
 9. Multi Proportion Test
 10. Two Proportion Difference Test
 11. R and C Analysis Test (Dependence Test)
 12. Goodness Fit Test
- 9

9. Multi Proportion Test

No of proportions: 5
Level of significance: 0.01

Data Format

1. Total_no and Success
2. Success and Failures

1

Total No of p1: 100
No of success of p1: 14

Total No of p2: 200
No of success of p2: 33

Total No of p3: 180
No of success of p3: 21

Total No of p4: 120
No of success of p4: 17

Total No of p5: 150
 No of success of p5: 25

Testing Alternative Hypothesis $p_1 \neq p_2 \neq p_3 \dots \neq p_k$ against Null Hypothesis $p_1 = p_2 = p_3 \dots = p_k$

Observed Frequency	Expected	Observed Frequency	Contribution to χ^2
14	14.666666666666666		0.03030303030303025
86	85.33333333333334		0.005208333333333185
33	29.333333333333332		0.45833333333333365
167	170.66666666666669		0.07877604166666748
21	26.4		1.104545454545454
159	153.60000000000002		0.18984374999999837
17	17.6		0.02045454545454555
103	102.4		0.003515624999999933
25	22.0		0.4090909090909091
125	128.0		0.0703125

The null must be rejected if $\chi^2 > 13.2767$

Calculations

$\chi^2 = 2.3703835227272716$

Decision

Failure to reject Null $p_1=p_2=p_3=\dots=p_k$

Process finished with exit code 0