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/Users/bps/PycharmProjects/hypothesis_tesing/venv/bin/python /Users/bps/PycharmProjects/
hypothesis_tesing/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
2. One Mean Small sample
3. Two Mean Large sample
4. Two Mean Small sample with both normal and $\sigma1 = \sigma1$
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
12. Goodness Fit Test
12

12. Goodness Fit Test

Select the Calculator

Discrete Distribution
1. Goodness Fit for Poisson Test
2. Goodness Fit for Binomial Test
3. Goodness Fit for Geometric Test
4. Goodness Fit for Hyper Geometric Test
5. Goodness Fit for Uniform Discrete Test

Continuous Distribution
6. Goodness Fit for Normal Test
7. Goodness Fit for Log Normal Test
8. Goodness Fit for Alpha Test
9. Goodness Fit for Beta Test
10. Goodness Fit for Gamma Test
11. Goodness Fit for Weibull Test
12. Goodness Fit for Exponential Test
13. Goodness Fit for Uniform Continuous Test
6

6. Goodness Fit for Normal Test

Level of significance: 0.05
Enter the mean μ : 4
Enter the standard deviation σ : 2.5

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Enter the no of Categories : 10

Does the interval is a continuous one ? eg: <10 , 10 <20 etc
1. yes
2. no
1


Enter the Enter the Highest of each interval_0: 0
Enter the Observed Frequency for interval_0: 4


Enter the Enter the Highest of each interval_1: 1
Enter the Observed Frequency for interval_1: 5


Enter the Enter the Highest of each interval_2: 2
Enter the Observed Frequency for interval_2: 10


Enter the Enter the Highest of each interval_3: 3
Enter the Observed Frequency for interval_3: 13


Enter the Enter the Highest of each interval_4: 4
Enter the Observed Frequency for interval_4: 18
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Enter the Enter the Highest of each interval_5: 5
Enter the Observed Frequency for interval_5: 16

Enter the Enter the Highest of each interval_6: 6
Enter the Observed Frequency for interval_6: 9

Enter the Enter the Highest of each interval_7: 7
Enter the Observed Frequency for interval_7: 9

Enter the Enter the Highest of each interval_8: 8
Enter the Observed Frequency for interval_8: 4

Enter the Lowest of Interval of_9: 8
Enter the Observed Frequency for Interval of_9: 2

X	Observed Frequency	Normal Probabilities of Interval area	Expected Frequency
< 0	4	0.0548	4.932
0 < 1	5	0.0603	5.427

1 < 2	10	0.0968	8.712	1
2 < 3	13	0.1327	11.9430000000000001
3 < 4	18	0.1554	13.986
4 < 5	16	0.1554	13.986
5 < 6	9	0.1327	11.9430000000000001
6 < 7	9	0.0968	8.712	6
7 < 8	4	0.0603	5.427
8 >	2	0.0548	4.932

Combined categories (initial,final) [(0, 1), (8, 9)]

Observed Frequency	Normal Probabilities of Interval area	Expected Frequency
9	0.11510000000000001	10.359
10	0.0968	8.712
13	0.1327	11.9430000000000001
18	0.1554	13.986
16	0.1554	13.986
9	0.1327	11.9430000000000001
9	0.0968	8.712
6	0.11510000000000001	10.359

Null hypothesis: Random variable has a Normal distribution with $\mu = 4.0$ and standard deviation = 2.5.

Alternative hypothesis: Random variable does not have the Normal distribution with μ = 4.0 and
standard deviation = 2.5.

Calculations

Total Chi_square: 4.473273161378502

Decision
The null must be rejected if χ^2 > 14.0671

Since χ^2 = 4.473273161378502 does not exceed 14.0671, the null hypothesis cannot be rejected
; we cannot reject that the Normal distribution with μ = 4.0 and standard deviation = 2.5
provides a good fit at level α = 0.05.

Process finished with exit code 0