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/Users/bps/PycharmProjects/hypothesis_tesing/venv/bin/python /Users/bps/
PycharmProjects/hypothesis_tesing/main.py


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 σ1 = σ1
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
1

1. Goodness Fit for Poisson Test

```
Level of significance: 0.05
Enter the λ: 4.6
Enter the no of Categories: 14

Does the random variable values is in the order 0,1,3,.....,12,13
1. yes
2. no
1


Enter the Observed Frequency for 0 3
Enter the Observed Frequency for 1 15
Enter the Observed Frequency for 2 47
Enter the Observed Frequency for 3 76
Enter the Observed Frequency for 4 68
Enter the Observed Frequency for 5 74
Enter the Observed Frequency for 6 46
Enter the Observed Frequency for 7 39
Enter the Observed Frequency for 8 15
Enter the Observed Frequency for 9 9
Enter the Observed Frequency for 10 5
Enter the Observed Frequency for 11 2
Enter the Observed Frequency for 12 0
Enter the Observed Frequency for 13 1
```

X	Observed Frequency	Poisson Probabilities	Expected Frequency
0	3	0.01	4.0
1	15	0.046	18.4
2	47	0.106	42.4
3	76	0.163	65.2
4	68	0.188	75.2
5	74	0.173	69.1
6	46	0.132	52.8
7	39	0.087	34.8
8	15	0.05	20.0
9	9	0.026	10.4
10	5	0.012	4.8
11	2	0.005	2.0
12	0	0.002	0.8
13	1	0.001	0.4

Combined categories (initial,final) [(0, 1), (10, 13)]

Observed Frequency	Poisson Probabilities	Expected Frequency

18	0.056	22.4
47	0.106	42.4
76	0.163	65.2
68	0.188	75.2
74	0.173	69.1
46	0.132	52.8
39	0.087	34.8
15	0.05	20.0
9	0.026	10.4
8	0.020000000000000004	8.0

Null hypothesis: Random variable has a Poison distribution with λ = 4.6.
Alternative hypothesis: Random variable does not have the Poison distribution with λ = 4.6.

Calculations

Total Chi_square: 7.01024417983987

Decision
The null must be rejected if χ^2 > 16.919

Since χ^2 = 7.01024417983987 does not exceed 16.919, the null hypothesis cannot be

rejected; we cannot reject that the Poisson distribution with λ = 4.6 provides a good fit at level α = 0.05.

Process finished with exit code 0