



GGY 112

İSTATİSTİK

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11. HAFTA

UYUM İYİLİĞİ TESTLERİ VE KATEGORİK VERİ ANALİZİ



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TÜM PARAMETRELER BELİRTİLDİĞİNDE UYUM İYİLİĞİ TESTLERİ



$$H_0 : P\{Y = i\} = p_i, \quad i = 1, \dots, k$$

olur; halbuki alternatif hipotez de

$$H_1 : P\{Y = i\} \neq p_i, \text{ bazı } i = 1, \dots, k \text{ için}$$



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TÜM PARAMETRELER BELİRTİLDİĞİNDE UYUM İYİLİĞİ TESTLERİ



Simulation Approximation to the p -value in Goodness of Fit

This program uses simulation to approximate the p -value in the goodness of fit test.

Enter value for p :

Enter sample size:

Enter desired number of simulation runs:

Enter the value of the test statistic:

Probabilities

-
-
-
-
-
-
-

The estimate of the p -value is 0.1843



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BAZI PARAMETRELER BELİRTİLMEDİĞİNDE UYUM İYİLİĞİ TESTLERİ



$$P_1 = P\{Y = 0\} = e^{-\lambda} \quad (11.3.1)$$

$$P_2 = P\{Y = 1\} = \lambda e^{-\lambda}$$

$$P_3 = P\{Y = 2\} + P\{Y = 3\} = \frac{e^{-\lambda}\lambda^2}{2} + \frac{e^{-\lambda}\lambda^3}{6}$$

$$P_4 = P\{Y = 4\} + P\{Y = 5\} = \frac{e^{-\lambda}\lambda^4}{24} + \frac{e^{-\lambda}\lambda^5}{120}$$

$$P_5 = P\{Y > 5\} = 1 - e^{-\lambda} - \lambda e^{-\lambda} - \frac{e^{-\lambda}\lambda^2}{2} - \frac{e^{-\lambda}\lambda^3}{6} - \frac{e^{-\lambda}\lambda^4}{24} - \frac{e^{-\lambda}\lambda^5}{120}$$



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BAĞIMLILIK TABLOLARINDA BAĞIMSIZLIK TESTLERİ

$$P_{ij} = P\{X = i, Y = j\}$$



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SABİT MARJİNAL TOPLAMLARA SAHİP BAĞIMLILIK TABLOLARINDA BAĞIMSIZLIK TESTLERİ

$$TS = \sum_i \sum_j \frac{(N_{ij} - \hat{e}_{ij})^2}{\hat{e}_{ij}}$$

N_{ij} = i . X karakteristiği ve j . Y karakteristiğinin her ikisine de sahip örnek üyelerinin sayısı

N_i = i . X karakteristiğine sahip örnek üyelerinin sayısı

M_j = j . Y karakteristiğine sahip örnek üyelerinin sayısı

$$\hat{e}_{ij} = n\hat{p}_i\hat{q}_j = \frac{N_i M_j}{n}$$



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SABİT MARJİNAL TOPLAMLARA SAHİP BAĞIMLILIK TABLOLARINDA BAĞIMSIZLIK TESTLERİ



The Test Statistic for Independence in a Contingency Table

	A	B	C	D
1	10	12	6	7
2	10	24	9	10
3	13	20	7	10

Start

Quit

The test statistic has value $t = 1.81478$



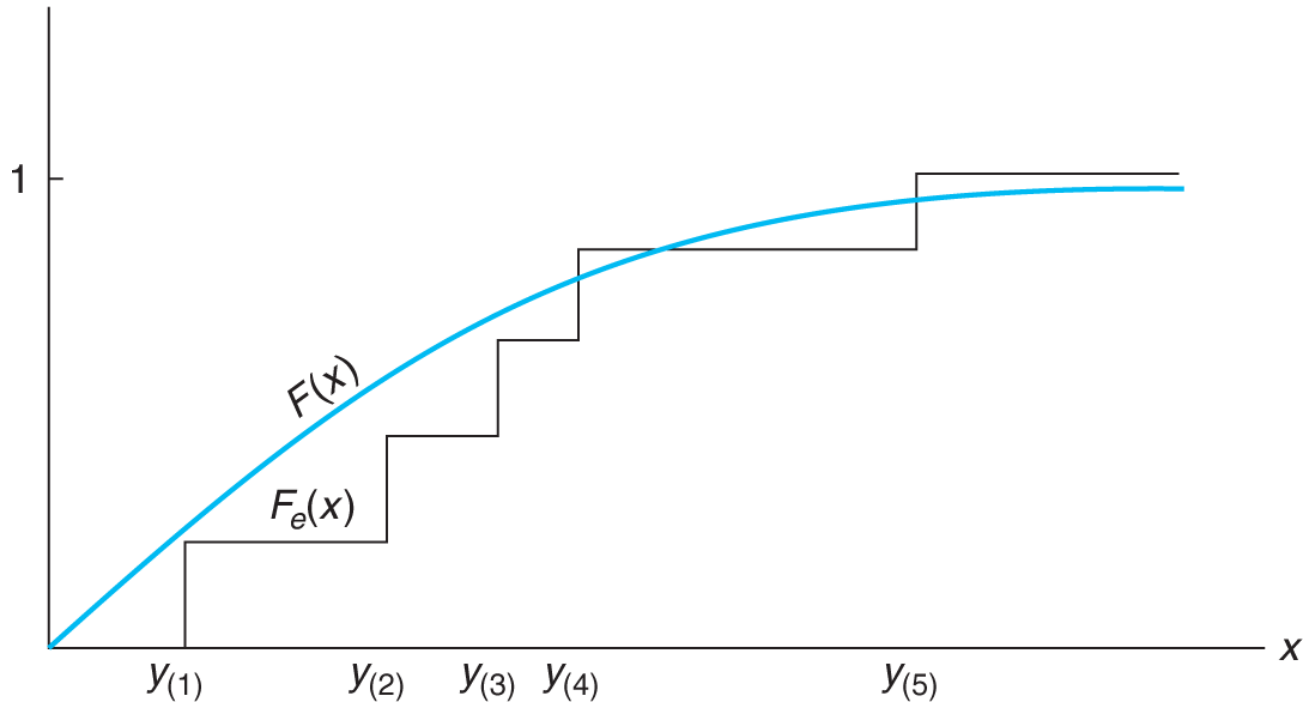
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SÜREKLİ VERİLER İÇİN KOLMOGOROV-SMIRNOV UYUM İYİLİĞİ TESTİ



$n = 5$



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