

Hi kvadrat test za proveru normalnosti (Goodness of Fit)

Zadatak 2

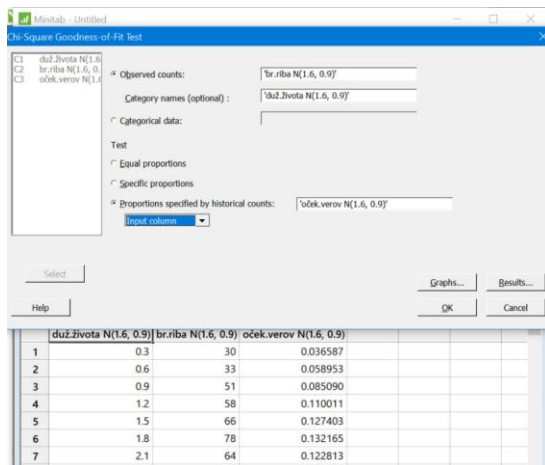
Ho: podaci dobijeni uzorkovanjem imaju normalnu raspodelu sa datim parametrima.

Ha: podaci nemaju normalnu raspodelu.

Pošto α nije dato, uzećemo da je 0,5.

1. $N(1.6, 0.9)$

N(1.6, 0.9)						
duž.života N(1.6, 0.9)	br.riba N(1.6, 0.9)	oček.verov N(1.6, 0.9)				oček.vredn
0 - 0.3	30	0.036587	0.074307	0.037720		18.293409
0.3 - 0.6	33	0.058953	0.133260	0.074307		29.476632
0.6 - 0.9	51	0.085090	0.218350	0.133260		42.544876
0.9 - 1.2	58	0.110011	0.328361	0.218350		55.005314
1.2 - 1.5	66	0.127403	0.455764	0.328361		63.701738
1.5 - 1.8	78	0.132165	0.587930	0.455764		66.082717
1.8 - 2.1	64	0.122813	0.710743	0.587930		61.406544
2.1 - 2.4	56	0.102226	0.812969	0.710743		51.112981
2.4 - 2.7	36	0.076220	0.889188	0.812969		38.109799
2.7 - 3	28	0.050905	0.940093	0.889188		25.452447
ukupno:	500					



Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: br.riba N(1.6, 0.9)

Using category names in duž.života $N(1.6, 0.9)$

Category	Observed	Historical Counts	Test Proportion	Expected	Contribution to Chi-Sq
0.3	30	0.036587	0.040545	20.2726	4.66754
0.6	33	0.058953	0.065331	32.6657	0.00342
0.9	51	0.085090	0.094296	47.1478	0.31475
1.2	58	0.110011	0.121913	60.9563	0.14338
1.5	66	0.127403	0.141187	70.5936	0.29891
1.8	78	0.132165	0.146464	73.2322	0.31041
2.1	64	0.122813	0.136100	68.0501	0.24104
2.4	56	0.102226	0.113286	56.6429	0.00730
2.7	36	0.076220	0.084466	42.2329	0.91987
3	28	0.050905	0.056412	28.2061	0.00151

N DF Chi-Sq P-Value
500 9 6.90813 **0.647**

Pošto je $p=0,647$ veće od praga značajnosti 0,05, ne odbacujemo Ho i zaključujemo da uzorak ima normalnu raspodelu sa srednjom vrednošću 1,6 i standardnom devijacijom 0,9.

2. N (1.4 , 0.8)

duž.života N(1.4, 0.8)		N(1.4 , 0.8)				
		br.riba N(1.4, 0.8)	oček.verov N(1.4, 0.8)			oček.vredn
0 -	0.3	30	0.044507	0.084566	0.040059	22.253283
0.3 -	0.6	33	0.074090	0.158655	0.084566	37.044766
0.6 -	0.9	51	0.107330	0.265986	0.158655	53.665138
0.9 -	1.2	58	0.135308	0.401294	0.265986	67.654073
1.2 -	1.5	66	0.148445	0.549738	0.401294	74.222275
1.5 -	1.8	78	0.141724	0.691462	0.549738	70.862118
1.8 -	2.1	64	0.117751	0.809213	0.691462	58.875293
2.1 -	2.4	56	0.085137	0.894350	0.809213	42.56859
2.4 -	2.7	36	0.053568	0.947919	0.894350	26.784247
2.7 -	3	28	0.029331	0.977250	0.947919	14.665574
ukupno:		500				

Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: br.riba N(1.4, 0.8)

Using category names in duž.života N(1.4, 0.8)

Category	Observed	Historical Counts	Test Proportion	Expected	Contribution to Chi-Sq
0.3	30	0.044507	0.047489	23.7447	1.64791
0.6	33	0.074090	0.079055	39.5275	1.07793
0.9	51	0.107330	0.114523	57.2617	0.68473
1.2	58	0.135308	0.144376	72.1882	2.78860
1.5	66	0.148445	0.158393	79.1966	2.19895
1.8	78	0.141724	0.151222	75.6112	0.07547
2.1	64	0.117751	0.125642	62.8210	0.02213
2.4	56	0.085137	0.090843	45.4215	2.46370
2.7	36	0.053568	0.057159	28.5793	1.92681
3	28	0.029331	0.031297	15.6484	9.74928

N	DF	Chi-Sq	P-Value
500	9	22.6355	0.007

Pošto je $p=0,007$ manje od praga značajnosti, odbacujemo H_0 i zaključujemo da uzorak nema normalnu raspodelu sa parametrima $N(1.4, 0.8)$.