

Naloge za vaje: **Korelacija**

Uporaba excelovih funkcij: *rank, matematični izračun, correl, pearson*

**2,008**

0	1,100,436	949,078
1	15,017	8,326
2	570	1,957
3	5,434	4,144
4	3,617	1,017
5	797	630
6	8,810	3,787
7	434	646
8	548	2,344
9	2,508	1,863
10	2,795	1,416
11	2,452	2,415
12	3,106	2,535
13	13,577	4,465
14	13,645	10,804
15	264	1,044
16	7,277	23,553
17	6,481	3,021
18	6,531	4,892
19	870	2,412
20	2,472	994
21	0	966
22	2,391	2,074
23	367	1,637
24	3,196	6,927
25	1,364	1,229
26	3,343	1,875
27	258	429
28	3,710	1,536
29	618	935
30	3,318	3,091
31	0	644
32	3,534	2,141
33	814	1,582
34	15,989	14,568
35	747	1,229
36	2,502	4,201
37	9,028	3,043
38	3,870	2,965
39	1,178	1,751
40	216	1,324
41	5,063	4,451
42	208	1,205
43	1,130	1,048
44	691	1,147
45	12,965	7,778
46	556	1,750
47	16,888	4,727
48	167	164

49	497	1,244
50	662	4,679
51	15,789	1,914
52	1,584	5,571
53	3,190	2,763
54	2,594	6,495
55	11,883	6,310
56	7,585	7,313
57	14,160	10,890
58	0	297
59	1,170	1,041
60	5,901	12,815
61	1,231	2,462
62	1,768	3,178
63	2,016	2,017
64	188	280
65	10,498	8,109
66	2,724	1,627
67	7,020	2,157
68	28,829	23,397
69	91	1,135
70	649	268
71	864	1,496
72	33,387	25,474
73	5,135	2,620
74	1,042	1,648
75	9,177	11,814
76	5,235	2,212
77	1,754	852
78	4,784	6,245
79	10,321	3,459
80	3,255	5,590
81	7,763	6,956
82	114,590	130,122
83	481	1,232
84	3,811	5,705
85	1,761	5,556
86	8,013	1,673
87	352	1,656
88	0	846
89	775	1,562
90	179	747
91	3,487	2,314
92	1,878	1,851
93	0	986
94	65,351	54,287
95	722	1,830
96	16,168	6,784
97	3,660	3,278
98	2,827	3,752
99	212	1,773
100	5,496	2,990
101	2,673	2,241

102	506	1,251
103	1,431	2,174
104	1,160	1,323
105	2,778	2,154
106	2,778	3,058
107	802	1,877
108	3,821	10,413
109	1,642	1,803
110	3,841	2,344
111	0	1,298
112	10,793	15,253
113	25,186	16,415
114	504	788
115	3,560	1,867
116	5,695	6,147
117	0	154
118	5,484	3,579
119	9,550	8,332
120	2,474	2,845
121	1,498	1,465
122	260	904
123	214	1,276
124	310	2,055
125	4,656	2,598
126	20,502	7,226
127	1,383	2,217
128	707	1,390
129	1,281	2,964
130	4,901	11,590
131	2,327	3,131
132	8,143	2,940
133	798	2,205
134	25,796	2,688
135	2,844	3,016
136	7,887	8,501
137	1,126	6,014
138	721	566
139	123	1,096
140	0	2,020
141	4,917	4,189
142	433	584
143	2,303	5,290
144	603	1,652
145	361	1,534
146	7,209	3,788
147	3,880	2,272
148	1,397	1,805
149	6,865	8,127
150	6,254	5,803
151	7,180	8,137
152	29,052	11,357
153	13,104	6,622
154	1,825	908

155	0	252
156	0	1,009
157	2,103	1,932
158	0	1,801
159	1,005	1,135
160	127	1,011
161	60	575
162	963	1,393
163	189	1,018
164	52	1,063
165	380	803
166	3,074	3,069
167	5,745	3,572
168	9,554	4,185
169	1,027	3,113
170	10,300	8,793
171	0	1,016
172	1,268	1,433
173	21,130	10,550
174	30,601	3,604
175	3,138	4,446
176	664	1,363
177	1,653	1,374
178	3,008	2,364
179	3,757	3,819
180	863	1,976
181	1,579	679
182	995	2,117
183	2,666	5,379
184	2,388	8,566
185	17,810	6,162
186	590	586
187	468	1,736
188	2,621	7,435
189	637	1,715
190	8,569	16,950
191	670	771
192	1,803	1,706
193	282	677
194	2,335	2,608
195	5,478	2,298
196	1,720	1,046
197	6,270	1,868
198	5,491	3,659
199	13,869	1,146
200	26,045	7,126
201	164	1,317
202	2,174	7,952
203	770	632
204	3,612	3,102
205	4,525	10,085
206	1,595	3,118
207	364	614

208	1,007	2,257
209	2,917	1,866
210	998	2,036

Ry	Rx	(Ry-Rx) <sup>2</sup>
17	23	36
165	117	2304
56	59	9
73	177	10816
149	198	2401
33	62	841
173	195	484
167	96	5041
98	125	729
90	150	3600
102	93	81
84	91	49
21	53	1024
20	15	25
182	174	64
40	4	1296
46	79	1089
45	50	25
143	94	2401
101	181	6400
199	183	256
103	111	64
176	141	1225
81	34	2209
127	163	1296
78	121	1849
184	204	400
71	145	5476
162	184	484
79	75	16
199	196	9
76	109	1089
146	143	9
15	9	36
152	163	121
99	56	1849
32	78	2116
66	82	256
131	132	1
185	155	900
59	54	25
188	165	529
134	172	1444
156	166	100
23	28	25
166	133	1089
13	51	1444
192	209	289

- 1 Izračunajte korelacijski koeficient z metodo
- 2 Dobljeni rezultat interpretirajte.
- 3 Izračunajte korelacijski koeficient z metodo
- 4 Dobljeni rezultat interpretirajte.
- 5 Ali bomo v korelacijski analizi uporabljali ag
- 6 Primerjajte rezultate pridobljene po izračuni

**Rešitve:**

- 1 0.796188
- 2 Obstaja močna in pozitivna povezanost me kvadratno stanovanjsko površino v občinah
- 3 **Pearson**                      **Correl**  
0.894472                      0.894472
- 4 Obstaja močna in pozitivna povezanost m in kvadratno stanovanjsko površino v občin
- 5 Ne, ker potem se bodo naši podatki popačil
- 6 Enkrat primerjamo na osnovi ranga, drugič

170	161	81
159	52	11449
16	119	10609
121	46	5625
82	86	16
97	37	3600
24	38	196
39	30	81
18	14	16
199	205	36
132	175	1849
49	10	1521
130	92	1444
114	70	1936
110	115	25
190	206	256
26	26	0
93	142	2401
43	107	4096
6	5	1
196	168	784
160	207	2209
144	147	9
3	3	0
58	88	900
136	140	16
31	11	400
57	104	2209
116	187	5041
62	39	529
27	68	1681
80	45	1225
38	33	25
1	1	0
171	162	81
69	44	625
115	47	4624
36	137	10201
179	138	1681
199	188	121
150	144	36
191	192	1
77	98	441
111	126	225
199	182	289
2	2	0
153	127	676
14	35	441
72	69	9
89	63	676
187	131	3136
52	81	841
94	102	64

168	160	64
124	106	324
133	156	529
91	108	289
91	77	196
147	120	729
68	17	2601
119	129	100
67	96	841
199	158	1681
25	8	289
9	7	4
169	190	441
75	123	2304
51	41	100
199	210	121
54	66	144
30	22	64
100	85	225
123	148	625
183	186	9
186	159	729
180	112	4624
63	90	729
11	31	400
126	103	529
155	152	9
128	83	2025
61	12	2401
106	71	1225
35	84	2401
148	105	1849
8	87	6241
88	80	64
37	21	256
135	42	8649
154	203	2401
195	170	625
199	114	7225
60	57	9
174	201	729
107	49	3364
163	139	576
178	146	1024
41	61	400
65	100	1225
125	128	9
44	25	361
48	43	25
42	24	324
5	13	64
22	36	196
112	185	5329



199	208	81
199	180	361
109	118	81
199	130	4761
139	168	841
194	179	225
197	202	25
142	151	81
189	176	169
198	171	729
175	189	196
85	76	81
50	67	289
29	58	841
137	73	4096
28	19	81
199	178	441
129	149	400
10	16	36
4	65	3721
83	55	784
158	154	16
118	153	1225
86	95	81
70	60	100
145	116	841
122	193	5041
141	110	961
95	48	2209
104	20	7056
12	40	784
164	200	1296
172	134	1444
96	29	4489
161	135	676
34	6	784
157	191	1156
113	136	529
181	194	169
105	89	256
55	99	1936
117	173	3136
47	122	5625
53	64	121
19	167	21904
7	32	625
193	157	1296
108	27	6561
151	197	2116
74	74	0
64	18	2116
120	72	2304
177	199	484

138	101	1369
87	124	1369
140	113	729

korelacije ranga

Pearsonovega korelacijskega koeficienta.

regatni podatek (total) za celotno Slovenijo?  
ih dveh različnih komutacijskih metod.

d številom delovno aktivnim prebivalstvom in  
RS.

ed številom delovno aktivnega prebivalstva  
ah RS.

li.

pa na podlagi aritmetične sredine.









Naloge za vaje: **Linearna regresija z dvema slučajnjima spremenljivkama**

Uporaba excelovih funkcij: *linest*, *matematični izračun*, *correl*, *pearson*, *average*, *grafični vmesni*  
**2,008**

0	1,100,436	949,078
1	15,017	8,326
2	570	1,957
3	5,434	4,144
4	3,617	1,017
5	797	630
6	8,810	3,787
7	434	646
8	548	2,344
9	2,508	1,863
10	2,795	1,416
11	2,452	2,415
12	3,106	2,535
13	13,577	4,465
14	13,645	10,804
15	264	1,044
16	7,277	23,553
17	6,481	3,021
18	6,531	4,892
19	870	2,412
20	2,472	994
21	0	966
22	2,391	2,074
23	367	1,637
24	3,196	6,927
25	1,364	1,229
26	3,343	1,875
27	258	429
28	3,710	1,536
29	618	935
30	3,318	3,091
31	0	644
32	3,534	2,141
33	814	1,582
34	15,989	14,568
35	747	1,229
36	2,502	4,201
37	9,028	3,043
38	3,870	2,965
39	1,178	1,751
40	216	1,324
41	5,063	4,451
42	208	1,205
43	1,130	1,048
44	691	1,147
45	12,965	7,778
46	556	1,750
47	16,888	4,727
48	167	164



49	497	1,244
50	662	4,679
51	15,789	1,914
52	1,584	5,571
53	3,190	2,763
54	2,594	6,495
55	11,883	6,310
56	7,585	7,313
57	14,160	10,890
58	0	297
59	1,170	1,041
60	5,901	12,815
61	1,231	2,462
62	1,768	3,178
63	2,016	2,017
64	188	280
65	10,498	8,109
66	2,724	1,627
67	7,020	2,157
68	28,829	23,397
69	91	1,135
70	649	268
71	864	1,496
72	33,387	25,474
73	5,135	2,620
74	1,042	1,648
75	9,177	11,814
76	5,235	2,212
77	1,754	852
78	4,784	6,245
79	10,321	3,459
80	3,255	5,590
81	7,763	6,956
82	114,590	130,122
83	481	1,232
84	3,811	5,705
85	1,761	5,556
86	8,013	1,673
87	352	1,656
88	0	846
89	775	1,562
90	179	747
91	3,487	2,314
92	1,878	1,851
93	0	986
94	65,351	54,287
95	722	1,830
96	16,168	6,784
97	3,660	3,278
98	2,827	3,752
99	212	1,773
100	5,496	2,990
101	2,673	2,241

102	506	1,251
103	1,431	2,174
104	1,160	1,323
105	2,778	2,154
106	2,778	3,058
107	802	1,877
108	3,821	10,413
109	1,642	1,803
110	3,841	2,344
111	0	1,298
112	10,793	15,253
113	25,186	16,415
114	504	788
115	3,560	1,867
116	5,695	6,147
117	0	154
118	5,484	3,579
119	9,550	8,332
120	2,474	2,845
121	1,498	1,465
122	260	904
123	214	1,276
124	310	2,055
125	4,656	2,598
126	20,502	7,226
127	1,383	2,217
128	707	1,390
129	1,281	2,964
130	4,901	11,590
131	2,327	3,131
132	8,143	2,940
133	798	2,205
134	25,796	2,688
135	2,844	3,016
136	7,887	8,501
137	1,126	6,014
138	721	566
139	123	1,096
140	0	2,020
141	4,917	4,189
142	433	584
143	2,303	5,290
144	603	1,652
145	361	1,534
146	7,209	3,788
147	3,880	2,272
148	1,397	1,805
149	6,865	8,127
150	6,254	5,803
151	7,180	8,137
152	29,052	11,357
153	13,104	6,622
154	1,825	908

155	0	252
156	0	1,009
157	2,103	1,932
158	0	1,801
159	1,005	1,135
160	127	1,011
161	60	575
162	963	1,393
163	189	1,018
164	52	1,063
165	380	803
166	3,074	3,069
167	5,745	3,572
168	9,554	4,185
169	1,027	3,113
170	10,300	8,793
171	0	1,016
172	1,268	1,433
173	21,130	10,550
174	30,601	3,604
175	3,138	4,446
176	664	1,363
177	1,653	1,374
178	3,008	2,364
179	3,757	3,819
180	863	1,976
181	1,579	679
182	995	2,117
183	2,666	5,379
184	2,388	8,566
185	17,810	6,162
186	590	586
187	468	1,736
188	2,621	7,435
189	637	1,715
190	8,569	16,950
191	670	771
192	1,803	1,706
193	282	677
194	2,335	2,608
195	5,478	2,298
196	1,720	1,046
197	6,270	1,868
198	5,491	3,659
199	13,869	1,146
200	26,045	7,126
201	164	1,317
202	2,174	7,952
203	770	632
204	3,612	3,102
205	4,525	10,085
206	1,595	3,118
207	364	614

208	1,007	2,257
209	2,917	1,866
210	998	2,036

$y'$		
8,787	12,582,852	38,807,878
2,852	5,701,764	5,209,052
4,890	122,389	295,577
1,976	10,652,344	2,691,639
1,616	13,136,462	670,344
4,558	465,831	18,082,451
1,631	13,028,605	1,431,984
3,213	4,109,555	7,102,053
2,765	6,127,765	65,915
2,348	8,363,533	199,636
3,279	3,845,682	684,145
3,391	3,419,603	81,199
5,189	2,572	70,350,826
11,097	34,297,432	6,494,483
2,002	10,488,740	3,019,042
22,977	314,593,654	246,488,731
3,844	1,949,735	6,954,600
5,587	120,545	890,442
3,276	3,856,655	5,790,447
1,955	10,792,708	267,345
1,929	10,964,827	3,720,475
2,961	5,192,967	325,314
2,554	7,214,782	4,783,568
7,484	5,033,508	18,384,538
2,174	9,401,808	655,994
2,776	6,072,528	321,578
1,428	14,529,295	1,369,930
2,460	7,729,252	1,562,455
1,900	11,156,976	1,643,435
3,909	1,771,823	349,368
1,629	13,042,063	2,652,963
3,024	4,912,309	260,306
2,503	7,492,742	2,852,330
14,604	87,683,610	1,917,881
2,174	9,401,808	2,036,143
4,943	88,045	5,960,663
3,864	1,892,902	26,663,348
3,792	2,098,192	6,137
2,660	6,655,376	2,197,420
2,262	8,866,753	4,188,007
5,176	4,065	12,863
2,152	9,539,460	3,777,464
2,005	10,464,610	766,091
2,098	9,876,249	1,978,303
8,277	9,220,744	21,979,789
2,659	6,660,185	4,424,451
5,434	37,418	131,203,062
1,181	16,472,854	1,029,200

**1 Določite odvisno spremenljivko**

**2 Določite neodvisno spremenljivko**

**3 Ali je izbira vzročna posledična?**

**4 Opredelite regresijsko funkcijo**

regresijska konstanta

regresijski koeficient

oba koeficienta interpretirajte.

Stanovanjska površina se za vsa

Občina brez delovno aktivnega p

**5 Ali pridobljene informacije zadostujejo za sprejeto hipotezo?**

Ne, ker mormo ugotoviti našo de

**6 Določite determinacijski koeficient**

Determinacijski koef. je 0,80 kar

**7 Določite standardno napako ocen**

4745.67 Povprečni odklon pra

**8 Določite vrednost pojasnjene variance**

**9 Določite vrednost nepojasnjene variance**

**Parametre interpretirajte**

Celotna varianca predstavlja var

Pojasnjena varianca predstavlja

Nepojasnjena varianca je razlika

2,188	9,316,283	2,859,186
5,389	22,114	22,343,393
2,812	5,894,733	168,395,668
6,220	960,272	21,493,481
3,603	2,678,954	170,916
7,081	3,389,211	20,134,537
6,909	2,784,177	24,743,095
7,843	6,776,906	66,781
11,177	35,242,526	8,900,001
1,305	15,482,162	1,704,157
1,999	10,506,855	686,816
12,971	59,758,896	49,978,668
3,323	3,675,822	4,376,163
3,990	1,562,564	4,937,932
2,908	5,437,873	796,104
1,290	15,607,080	1,213,504
8,585	11,189,133	3,658,851
2,545	7,264,929	32,106
3,039	4,846,440	15,850,683
22,832	309,457,942	35,968,949
2,086	9,946,659	3,981,378
1,278	15,695,559	396,156
2,423	7,937,900	2,429,681
24,767	381,300,093	74,303,050
3,470	3,132,929	2,771,681
2,564	7,159,820	2,317,663
12,038	46,207,199	8,183,943
3,090	4,623,405	4,601,192
1,823	11,679,655	4,709
6,848	2,585,709	4,260,861
4,252	976,481	36,832,753
6,238	995,286	8,897,166
7,511	5,155,498	63,633
122,285	13,699,542,947	59,216,381
2,177	9,384,672	2,875,501
6,345	1,220,594	6,421,037
6,206	933,073	19,759,165
2,588	7,035,689	29,434,052
2,572	7,119,980	4,927,700
1,817	11,717,903	3,301,595
2,484	7,595,121	2,921,525
1,725	12,358,018	2,389,418
3,185	4,223,682	91,197
2,754	6,183,253	766,599
1,947	10,841,746	3,792,720
51,617	2,150,809,837	188,622,872
2,734	6,280,958	4,048,093
7,350	4,453,328	77,748,971
4,083	1,338,276	179,210
4,525	511,416	2,883,333
2,681	6,550,019	6,095,324
3,815	2,031,243	2,825,914
3,117	4,507,920	197,123

2,194	9,276,506	2,850,815
3,055	4,776,941	2,635,915
2,262	8,872,303	1,213,369
3,036	4,858,756	66,519
3,878	1,854,635	1,210,707
2,778	6,063,346	3,903,727
10,732	30,162,509	47,764,850
2,709	6,407,705	1,138,120
3,213	4,109,555	394,425
2,238	9,011,631	5,009,690
15,242	100,045,653	19,797,639
16,325	122,879,735	78,512,277
1,763	12,090,855	1,585,033
2,768	6,109,325	626,525
6,757	2,300,351	1,127,552
1,172	16,548,584	1,373,997
4,364	767,983	1,254,792
8,793	12,622,550	573,058
3,680	2,434,654	1,454,035
2,394	8,101,514	802,557
1,871	11,350,794	2,595,571
2,218	9,135,137	4,014,944
2,944	5,273,975	6,936,153
3,450	3,205,923	1,455,251
7,762	6,361,375	162,298,732
3,095	4,603,389	2,929,644
2,324	8,504,257	2,614,577
3,791	2,100,892	6,298,724
11,829	43,412,935	47,997,471
3,946	1,673,979	2,622,288
3,768	2,166,226	19,137,466
3,083	4,651,499	5,223,227
3,534	2,912,624	495,617,556
3,839	1,962,768	990,389
8,950	13,766,389	1,130,990
6,633	1,939,759	30,326,210
1,556	13,572,338	697,402
2,050	10,177,218	3,713,314
2,911	5,424,842	8,474,168
4,932	94,807	233
1,573	13,449,029	1,299,326
5,958	515,639	13,360,862
2,568	7,139,886	3,861,677
2,458	7,739,618	4,398,057
4,559	464,560	7,024,698
3,146	4,386,085	538,942
2,711	6,398,273	1,725,783
8,602	11,301,631	3,017,034
6,436	1,430,723	33,233
8,611	11,364,373	2,048,562
11,612	40,598,867	304,157,247
7,199	3,838,967	34,863,124
1,875	11,325,691	2,481

1,263	15,813,920	1,596,431
1,969	10,701,062	3,876,660
2,829	5,813,564	527,131
2,707	6,417,144	7,327,650
2,086	9,946,659	1,169,294
1,971	10,688,872	3,399,552
1,564	13,510,613	2,263,499
2,327	8,487,960	1,859,844
1,977	10,646,262	3,198,054
2,019	10,374,370	3,870,051
1,777	11,993,842	1,951,494
3,889	1,826,821	663,528
4,357	779,459	1,925,706
4,929	97,116	21,394,908
3,930	1,717,665	8,424,938
9,223	15,859,622	1,160,822
1,975	10,658,427	3,902,390
2,364	8,272,156	1,201,294
10,860	31,581,100	105,475,409
4,387	727,694	687,167,423
5,172	4,681	4,136,158
2,299	8,651,636	2,672,587
2,309	8,591,440	430,409
3,232	4,034,339	49,999
4,587	426,015	689,686
2,870	5,617,522	4,028,210
1,661	12,807,554	6,791
3,001	5,011,947	4,025,776
6,041	641,627	11,391,891
9,011	14,219,536	43,864,810
6,771	2,342,947	121,863,046
1,575	13,435,362	969,720
2,646	6,727,693	4,745,391
7,957	7,381,747	28,474,054
2,627	6,829,592	3,959,394
16,824	134,181,241	68,142,286
1,747	12,201,275	1,160,229
2,618	6,873,498	664,936
1,660	12,820,897	1,897,626
3,459	3,172,640	1,263,333
3,170	4,285,189	5,326,394
2,003	10,476,671	80,317
2,769	6,104,719	12,254,211
4,438	642,879	1,108,021
2,097	9,882,107	138,589,646
7,669	5,899,991	337,671,450
2,256	8,905,643	4,376,209
8,439	10,231,764	39,248,776
1,618	13,122,956	718,442
3,919	1,744,639	94,448
10,427	26,898,617	34,828,400
3,934	1,705,474	5,472,014
1,601	13,244,764	1,529,763



3,132	4,444,829	4,515,179
2,768	6,113,932	22,340
2,926	5,355,610	3,717,000

**o** vzrok: stanovanjska površina (y)  
**ivko** posledica: število delovno aktivnega prebivalstva (x)  
**e povezave naključna ali vsebinska?** Izbira je vsebinskega izvora.  
**o in njene parametre.**  
 (Funkcija: intercept) 1028.67  
 (Funkcija: slope) 0.93

aka delovno aktivnega prebivalca poveča za z 0,93 m<sup>2</sup>.  
 rebivalca bi imela 1028,67 m<sup>2</sup> stanovanjskih površin.

**ostujejo za pravilno interpretacijo vzročno posledične povezave?**  
 ajansko napako.

**cient in ga komentirajte** 0.80  
 pomeni, da z izbrano regresijsko funkcijo postane določena pojasnjena varianca 44% celotne vari

**cene regresijske premice**  
 ve vrednosti spremenljivke od vrednosti na regresijski premici je 4745,67.

**variance.** 90131015  
**ne variance.** 22521426

iabilnost v originalni statistični množici, variabilnost nad danimi vrednostmi spremenljivke y.  
 variabilnost, ki jo določajo točke na regresijski premici. To je pojav, kakor ga pojasnimo s pomočjc  
 i med celotno in pojasnjeno varianco, to je variabilnost, ki je regresijska premica ne pojasnjuje, to s









ianca. Regresijska premica pojasni 44% celotne variabilnosti, ostala pa ima druge nepojasnjene v:

) regresijske premice.

so vrednosti, ki jih ne moremo pojasniti z zapisano regresijsko funkcijo.











zroke.







