

## Ранговая корреляция Спирмена

Два эксперта  $X$  и  $Y$  выставили оценки десяти образцам продукции завода. Найти выборочный коэффициент корреляции Спирмена  $\rho_{\text{в}}$  между их оценками. <sup>1</sup>

### Задача L-44.1.

$$X = [46, 43, 41, 37, 35, 32, 28, 25, 23, 20]$$

$$Y = [58, 53, 44, 28, 17, 13, 35, 64, 24, 49]$$

### Задача L-44.2.

$$X = [47, 43, 39, 38, 35, 31, 28, 26, 23, 20]$$

$$Y = [58, 62, 44, 30, 19, 13, 54, 35, 25, 49]$$

### Задача L-44.3.

$$X = [46, 43, 41, 37, 35, 30, 28, 26, 23, 20]$$

$$Y = [53, 63, 44, 25, 19, 13, 59, 36, 28, 49]$$

### Задача L-44.4.

$$X = [45, 43, 40, 38, 35, 30, 28, 26, 23, 20]$$

$$Y = [54, 63, 44, 26, 20, 14, 34, 49, 31, 58]$$

### Задача L-44.5.

$$X = [46, 44, 39, 38, 35, 31, 28, 26, 23, 20]$$

$$Y = [54, 49, 44, 31, 18, 13, 58, 37, 23, 63]$$

### Задача L-44.6.

$$X = [47, 43, 40, 38, 35, 32, 28, 25, 23, 20]$$

$$Y = [58, 54, 29, 44, 19, 14, 63, 49, 37, 24]$$

### Задача L-44.7.

$$X = [46, 44, 40, 38, 35, 31, 29, 26, 23, 20]$$

$$Y = [54, 64, 31, 44, 18, 13, 59, 37, 24, 49]$$

### Задача L-44.8.

$$X = [46, 44, 40, 38, 35, 31, 29, 26, 23, 20]$$

$$Y = [54, 64, 30, 44, 18, 14, 59, 35, 23, 49]$$

### Задача L-44.9.

$$X = [46, 42, 40, 38, 35, 32, 28, 25, 23, 20]$$

$$Y = [54, 57, 44, 29, 19, 12, 63, 36, 24, 49]$$

### Задача L-44.10.

$$X = [45, 44, 41, 37, 35, 31, 28, 26, 23, 20]$$

$$Y = [53, 63, 44, 24, 18, 13, 34, 28, 59, 49]$$

### Задача L-44.11.

$$X = [46, 42, 41, 38, 35, 31, 29, 26, 23, 20]$$

$$Y = [54, 49, 63, 25, 19, 12, 44, 31, 37, 59]$$

### Задача L-44.12.

$$X = [46, 43, 41, 37, 35, 30, 28, 26, 23, 20]$$

$$Y = [53, 63, 44, 23, 18, 12, 59, 36, 29, 49]$$

### Задача L-44.13.

$$X = [46, 43, 41, 38, 35, 30, 28, 26, 23, 20]$$

$$Y = [54, 63, 59, 24, 19, 14, 36, 44, 30, 49]$$

### Задача L-44.14.

$$X = [45, 43, 41, 37, 35, 32, 28, 25, 23, 20]$$

$$Y = [53, 64, 44, 27, 17, 14, 34, 58, 25, 49]$$

<sup>1</sup>Гмурман В.Е. Руководство к решению задач по теории вероятностей и математической статистике. М.:1969. с. 202.

**Задача L-44.15.**

$$X = [45, 42, 41, 38, 35, 31, 28, 26, 23, 20]$$

$$Y = [54, 49, 62, 25, 19, 14, 35, 44, 30, 59]$$

**Задача L-44.16.**

$$X = [46, 42, 40, 38, 35, 31, 28, 26, 23, 20]$$

$$Y = [58, 49, 62, 26, 20, 14, 34, 54, 29, 44]$$

**Задача L-44.17.**

$$X = [47, 43, 39, 38, 35, 30, 28, 26, 23, 20]$$

$$Y = [58, 49, 62, 30, 18, 12, 54, 35, 24, 44]$$

**Задача L-44.18.**

$$X = [46, 43, 40, 38, 35, 32, 28, 25, 23, 20]$$

$$Y = [57, 49, 30, 54, 19, 13, 63, 35, 24, 44]$$

**Задача L-44.19.**

$$X = [46, 42, 41, 38, 35, 32, 28, 25, 23, 20]$$

$$Y = [54, 63, 58, 29, 18, 12, 44, 35, 25, 49]$$

**Задача L-44.20.**

$$X = [46, 43, 40, 38, 35, 32, 28, 25, 23, 20]$$

$$Y = [57, 54, 49, 29, 19, 14, 64, 36, 24, 44]$$

**Задача L-44.21.**

$$X = [46, 43, 41, 37, 35, 32, 28, 25, 23, 20]$$

$$Y = [58, 53, 44, 27, 19, 14, 35, 64, 26, 49]$$

**Задача L-44.22.**

$$X = [47, 43, 39, 38, 35, 31, 28, 26, 23, 20]$$

$$Y = [58, 62, 44, 31, 19, 12, 54, 36, 25, 49]$$

**Задача L-44.23.**

$$X = [46, 43, 41, 37, 35, 30, 28, 26, 23, 20]$$

$$Y = [59, 53, 49, 24, 18, 13, 63, 44, 28, 35]$$

**Задача L-44.24.**

$$X = [47, 44, 39, 38, 35, 31, 29, 26, 23, 20]$$

$$Y = [58, 54, 30, 64, 19, 14, 49, 35, 24, 44]$$

**Задача L-44.25.**

$$X = [45, 42, 40, 38, 35, 31, 28, 26, 23, 20]$$

$$Y = [54, 49, 58, 26, 20, 12, 34, 62, 30, 44]$$

**Задача L-44.26.**

$$X = [45, 43, 40, 38, 35, 32, 28, 25, 23, 20]$$

$$Y = [54, 64, 49, 31, 17, 13, 57, 35, 23, 44]$$

**Задача L-44.27.**

$$X = [45, 44, 41, 37, 35, 31, 29, 26, 23, 20]$$

$$Y = [53, 64, 31, 24, 19, 12, 49, 44, 59, 35]$$

**Задача L-44.28.**

$$X = [47, 43, 41, 37, 35, 32, 28, 25, 23, 20]$$

$$Y = [58, 44, 49, 28, 18, 12, 35, 64, 24, 53]$$

L-44

**Ответы.****Ранговая корреляция Спирмена**

06-Nov-18

№	$\sum d_i^2$	$\rho_B$	$y_i$
1	134	0.188	2,3,5,7,9,10,6,1,8,4
2	104	0.370	2,1,5,7,9,10,3,6,8,4
3	126	0.236	3,1,5,8,9,10,2,6,7,4
4	142	0.139	3,1,5,8,9,10,6,4,7,2
5	164	0.006	3,4,5,7,9,10,2,6,8,1
6	116	0.297	2,3,7,5,9,10,1,4,6,8
7	120	0.273	3,1,7,5,9,10,2,6,8,4
8	120	0.273	3,1,7,5,9,10,2,6,8,4
9	126	0.236	3,2,5,7,9,10,1,6,8,4
10	144	0.127	3,1,5,8,9,10,6,7,2,4
11	138	0.164	3,4,1,8,9,10,5,7,6,2
12	126	0.236	3,1,5,8,9,10,2,6,7,4
13	104	0.370	3,1,2,8,9,10,6,5,7,4
14	124	0.248	3,1,5,7,9,10,6,2,8,4
15	138	0.164	3,4,1,8,9,10,6,5,7,2
16	112	0.321	2,4,1,8,9,10,6,3,7,5
17	96	0.418	2,4,1,7,9,10,3,6,8,5
18	120	0.273	2,4,7,3,9,10,1,6,8,5
19	92	0.442	3,1,2,7,9,10,5,6,8,4
20	110	0.333	2,3,4,7,9,10,1,6,8,5
21	134	0.188	2,3,5,7,9,10,6,1,8,4
22	104	0.370	2,1,5,7,9,10,3,6,8,4
23	116	0.297	2,3,4,8,9,10,1,5,7,6
24	98	0.406	2,3,7,1,9,10,4,6,8,5
25	136	0.176	3,4,2,8,9,10,6,1,7,5
26	102	0.382	3,1,4,7,9,10,2,6,8,5
27	152	0.079	3,1,7,8,9,10,4,5,2,6
28	152	0.079	2,5,4,7,9,10,6,1,8,3

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