

Distribution Tables & Correlation

Examples:

- 1 A researcher conducted a study of 20 young people between the ages of 11 and 21 to determine how many hours of exercise they did per week. The following table shows the data collected.

Hours Age	Number of Workouts				
	[0, 2[	[2, 4[	[4, 6[	[6, 8[	[8, 10[
[11, 13[	0	0	1	1	2
[13, 15[	1	1	0	1	1
[15, 17[	2	1	0	1	1
[17, 19[	1	0	1	1	0
[19, 21[	2	1	1	0	0

Fill in the two boxes that correctly describe the linear correlation between age and the number of hours of exercise per week for these 20 young people.

ANSWER:

The linear correlation between age and the number of hours of exercise per week for these 20 young people is	positive <input type="checkbox"/>	strong <input type="checkbox"/>
	negative <input checked="" type="checkbox"/>	weak <input checked="" type="checkbox"/>

- 2 The table below shows the distribution of 24 members at a health club, according to their age and the number of workouts they did last month.

Age (years)	Number of Workouts					
	[1, 5[	[5, 9[	[9, 13[	[13, 17[	[17, 21[	[21, 25[
[18, 25[	1	1	1	0	0	0
[25, 32[	1	1	1	0	1	0
[32, 39[	0	1	2	1	1	0
[39, 46[	0	1	1	1	1	1
[46, 53[	0	0	2	0	1	0
[53, 60[	0	0	1	1	1	1

By filling in the two appropriate boxes, correctly describe the linear correlation between the age of the 24 members and the number of workouts they did last month.

ANSWER:

The linear correlation between the age of the 24 members and the number of workouts they did last month is	positive <input checked="" type="checkbox"/>	strong <input type="checkbox"/>
	negative <input type="checkbox"/>	weak <input checked="" type="checkbox"/>

- 3 The following table shows the distribution of the 40 players on the different basketball teams in an elementary school, according to their age and the number of years of experience they each have.

Experience (years) \ Age (years)	1	2	3	4	5
7	3	0	0	0	0
8	0	4	0	0	0
9	0	2	7	0	0
10	0	0	2	6	0
11	0	0	0	6	10

Which one of the following statements best describes the LINEAR CORRELATION between the ages of the players and their experience?

- A) The correlation is positive and strong.
- B) The correlation is positive and weak.
- C) The correlation is negative and strong.
- D) The correlation is negative and weak.

ANSWER: A

- 4 Over the course of a given week, 39 members of a reading club went to the library. The table below shows the ages of these 39 members and the number of times they visited the library that week.

Number of visits \ Age (years)	1	2	3	4	5
13	0	0	2	2	6
14	0	1	2	4	2
15	1	4	4	1	0
16	6	3	1	0	0

Which one of the following statements best describes the LINEAR CORRELATION between the ages of the members and the number of library visits?

- A) The correlation is positive and high.
- B) The correlation is positive and low.
- C) The correlation is negative and high.
- D) The correlation is negative and low.

ANSWER: C