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Assignment 6 - Correlational Analysis of Academic Score and Salary

Instructions

1. Answer the below question in the boxes provided.
2. Please submit the assignment through TalentLabs Learning System.

Scenario

You are working as a career mentor in a school and you are trying to understand the relationship between academic score and students' graduate income. You have collected the data below:

English Score	Math Score	Graduate Income ($100,000)
88	55	510
77	53	648
95	50	674
84	33	247
98	46	250
83	45	279
76	49	583
90	54	699
72	51	366
66	69	624

In this case study, feel free to use Excel or Google Spreadsheet to do the calculations. You DON'T need to calculate manually. If you are calculating using Excel or Google Spreadsheet, please also provide a screenshot showing your calculations.

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Question 1 (4 points)

Calculate the correlation and covariance between Math Score and Graduate Income. If you are using Excel or Google Sheet, you should be using the CORREL and the COVAR formula. Using other formulas might yield incorrect results.

(You should include the calculation steps and method in the answer, instead of just the final answer)

	A	B	C	D
1				
2		English Score	Math Score	Graduate Income ($100,000)
3		88	55	510
4		77	53	648
5		95	50	674
6		84	33	247
7		98	46	250
8		83	45	279
9		76	49	583
10		90	54	699
11		72	51	366
12		66	69	624
13				
14		Q1 - Correlation	=CORREL(C3:C12,D3:D12)	

	A	B	C	D
1				
2		English Score	Math Score	Graduate Income ($100,000)
3		88	55	510
4		77	53	648
5		95	50	674
6		84	33	247
7		98	46	250
8		83	45	279
9		76	49	583
10		90	54	699
11		72	51	366
12		66	69	624
13				
14		Q1 - Correlation	0.657330885	
15		Q1 - Covariance	=COVAR(C3:C12,D3:D12)	

Correlation = 0.657330885
Covariance = 989.5

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Question 2 (4 points)

Calculate the correlation and covariance between English Score and Graduate Income. If you are using Excel or Google Sheet, you should be using the CORREL and the COVAR formula. Using other formulas might yield incorrect results.

(You should include the calculation steps and method in the answer, instead of just the final answer)

	A	B	C	D
1				
2		English Score	Math Score	Graduate Income ($100,000)
3		88	55	510
4		77	53	648
5		95	50	674
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9		76	49	583
10		90	54	699
11		72	51	366
12		66	69	624
13				
14		Q1 - Correlation	0.657330885	
15		Q1 - Covariance	989.5	
16				
17		Q2 - Correlation	=correl(B3:B12,D3:D12)	
18		Q2 - Covariance		
19				

	A	B	C	D
1				
2		English Score	Math Score	Graduate Income ($100,000)
3		88	55	510
4		77	53	648
5		95	50	674
6		84	33	247
7		98	46	250
8		83	45	279
9		76	49	583
10		90	54	699
11		72	51	366
12		66	69	624
13				
14		Q1 - Correlation	0.657330885	
15		Q1 - Covariance	989.5	
16				
17		Q2 - Correlation	-0.152622137	
18		Q2 - Covariance	=covar(B3:B12,D3:D12)	
19				

Correlation = -0.152622137
Covariance = -258.7

Question 3 (1 point)

What would you say about the correlation between math score and graduate income? Any insights?

Correlation = 0.657330885

There is moderately strong positive relationship between math score and graduate income. Meaning somehow if math score is high, the graduate income will also be high.

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Question 4 (1 points)

Based on the insights that you identified in question 3, what would you suggest the school do to help students' career?

To help students' career, the school should focus on the students' math score and increase it.

Question 5 (1 point)

Now look at the English scores. Is there any skewness in the data? If so, is it left skewed or right skewed?

Yes – Left skewed as most of the scores were higher scores

Question 6 (1 point)

What would you say about the correlation between English score and the graduate income, based on your finding in question 2 and question 5? Any insights?

Correlation = -0.152622137

The correlation shows that there is a low negative relationship between english score and graduate income. Meaning somehow if english score is low, the graduate income will also be high.

Question 7 (1 point)

Based on the insights from question 6, what would you suggest the school to do?

To help students' career, the school should not focus on the students' english score because there is low correlation between the two indicators.