

ICQ 3

Instructions

In this exercise, please use the data file “Timothy_TE69_ICQ3.csv”.

Context behind the data

As a course coordinator in a university, you are interested to study the relationship between students’ final exam scores and other variables. After one semester of running the course, you obtained a random sample of the students who read the course and collected information about them. With the data obtained, you intend to quantitatively and qualitatively describe the relationship between students’ final exam scores and another variable, and use the other variable to predict a student’s final exam score. Details of the data set are given in the Appendix.

Questions

Answer all the following questions. For numerical answers, please leave your answers correct to the decimal places mentioned in each question.

Question 1

What is the correlation coefficient r between “Attendance” and “Final_Score”, correct to 2 decimal places?

Question 2

Based on your answer to Q1, what is the linear association between “Attendance” and “Final_Score”?

Choose among the options below:

- strong and positive
- moderate and positive
- weak and positive
- zero
- weak and negative
- moderate and negative
- strong and negative

Question 3

What is the gradient of the linear regression line if we use “Attendance” to predict “Final_Score”, correct to 3 decimal places? Do not perform any transformation before doing linear regression.

Question 4

What is the predicted average value of “Final_Score” at “Attendance” = 93.4, correct to 3 decimal places?
Do not perform any transformation before doing linear regression.

Question 5

Key in this unique ID : 269.

Appendix

A description of the data set is given below:

Variable	Description
Hours_Studied	Average number of hours spent studying per week
Attendance	Percentage of tutorials attended
Sleep_Hours	Average number of hours of sleep per night
Midterm_Score	Scores from midterm exam (out of 100)
Consultation_Sessions	Number of consultation sessions attended throughout the semester
Physical_Activity	Average number of hours of physical activity per week
Final_Score	Final exam score (out of 100)