My first notebook

Chandan Kumar Pandey

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Activity uno

Advantage of R Markdown

Question 1:- Does the number of hours students study impact their grades?

Introduction   You can write your introduction here

Method (Hypothetical)   We conducted a survey in schools of Bangalore North Taluk to understand the impact of the number of hours of study on student final scores. Student's parents were interviewed during parent-teacher meetings (PTA) to collect data on number of hours the child. Further from the school records, we collected overall final grades. To assess the impact of study time on the overall grades, we fitted a linear regression model with the number of hours as the independent variable. All analyses were performed in R statistical software (@boud1989quantitative) R version 4.2.1 (2022-06-23 ucrt).

Results   A total of 100 student records were collected, with the number of courses students were enrolled in ranging between 3 and 8. Based on parents' interviews, on average, students studied for 4.08 hours per day (ranging from 0.1 to 7.96 per day). Further, the average mark scored was 24.42 out of 60, ranging from 5.61 to 55.3.

In our model, the number of courses(1,283.298,$p<0.005$) and study times (1,1246.281,$p<0.005$)were significant in explaining the student's grades in the final examination (**Table 1**). Overall, our model was able to explain 93.91% of the variation in the marks of students. With the increase in each course, the student average grades improved by -7.456(1.174). Similarly, each extra hour of study will increase the score by a factor of 1.864(0.202) (Table 2, Fig1)

```
##
## Attaching package: 'kableExtra'

## The following object is masked from 'package:dplyr':
##
##     group_rows
```

Discussion

1. Our study align with words of elder that with more study we can get good grades
2. It was surprising that several courses also increased the overall mark. This may be due to the following reasons

   - Generally, people who study more take more courses.
   - The average of many subjects compensates for few bad results.

Table 1: Table1: Annova output of the model

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
number_courses	1	3538.880	3538.880	283.298	0
time_study	1	15568.180	15568.180	1246.281	0
Residuals	97	1211.696	12.492	NA	NA

Table 2: Table2: model summary

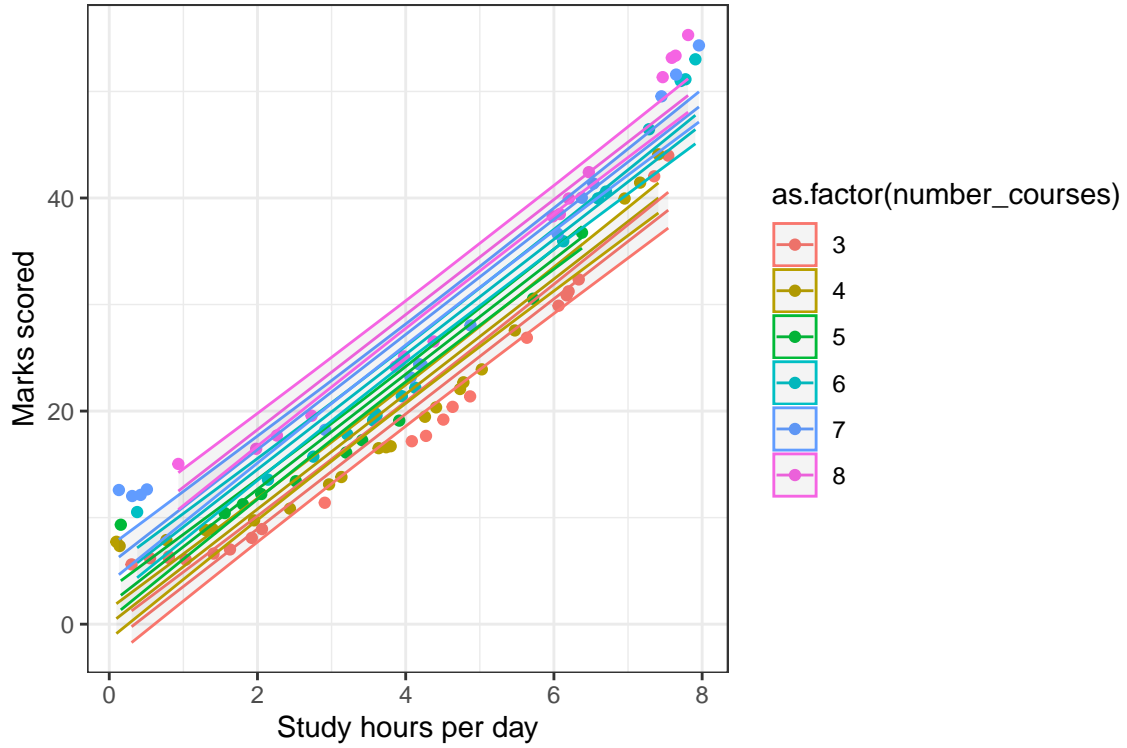|	Estimate	Std. Error	t value	Pr(>|t|)
Intercept	-7.456	1.174	-6.349	0
Courses enrolled-in	1.864	0.202	9.243	0
Per day hours of study	5.399	0.153	35.303	0

Figure 1: Student performace in relation to number of hours study and courses enrolled in