Python:-

All answers in one python file.

Answer:-

https://github.com/RohitSagare/ineuron\_final\_assignment/blob/e30a5e47f30f10a3e4daf58f2463b7b5d733b182/python%20final%20Assignment.ipynb

Stats:-

Q-1. A university wants to understand the relationship between the SAT scores of its

applicants and their college GPA. They collect data on 500 students, including their SAT

scores (out of 1600) and their college GPA (on a 4.0 scale). They find that the correlation

coefficient between SAT scores and college GPA is 0.7. What does this correlation

coefficient indicate about the relationship between SAT scores and college GPA?

Answer:-

A correlation coefficient of 0.7 indicates a strong positive relationship between SAT scores and college GPA.

The correlation coefficient ranges from -1 to +1, with 0 indicating no correlation, -1 indicating a strong negative correlation, and +1 indicating a strong positive correlation. In this case, a correlation coefficient of 0.7 suggests that there is a strong positive linear relationship between SAT scores and college GPA.

Q-2. Consider a dataset containing the heights (in centimeters) of 1000 individuals. The

mean height is 170 cm with a standard deviation of 10 cm. The dataset is approximately

normally distributed, and its skewness is approximately zero. Based on this information,

answer the following questions:

a. What percentage of individuals in the dataset have heights between 160 cm

and 180 cm?

b. If we randomly select 100 individuals from the dataset, what is the probability

that their average height is greater than 175 cm?

c. Assuming the dataset follows a normal distribution, what is the z-score

corresponding to a height of 185 cm?

d. We know that 5% of the dataset has heights below a certain value. What is

the approximate height corresponding to this threshold?

e. Calculate the coefficient of variation (CV) for the dataset.

f. Calculate the skewness of the dataset and interpret the result.

Answer:-

<https://github.com/RohitSagare/ineuron_final_assignment/blob/5f9c46a684c49400eb764a750e8785dcacd9cf68/question2(stat).ipynb>

Q-3. Consider the ‘Blood Pressure Before’ and ‘Blood Pressure After’ columns from the

data and calculate the following

https://drive.google.com/file/d/1mCjtYHiX--mMUjicuaP2gH3k-SnFxt8Y/view?usp=share\_

a. Measure the dispersion in both and interpret the results.

b. Calculate mean and 5% confidence interval and plot it in a graph

c. Calculate the Mean absolute deviation and Standard deviation and interpret

the results.

d. Calculate the correlation coefficient and check the significance of it at 1% level

of significance.

Answer:-

<https://github.com/RohitSagare/ineuron_final_assignment/blob/139811676d7d7daa75a9409d97b6cc3de447f400/question3(stats).ipynb>