DMI Statistics of Two Variables
MCV4U

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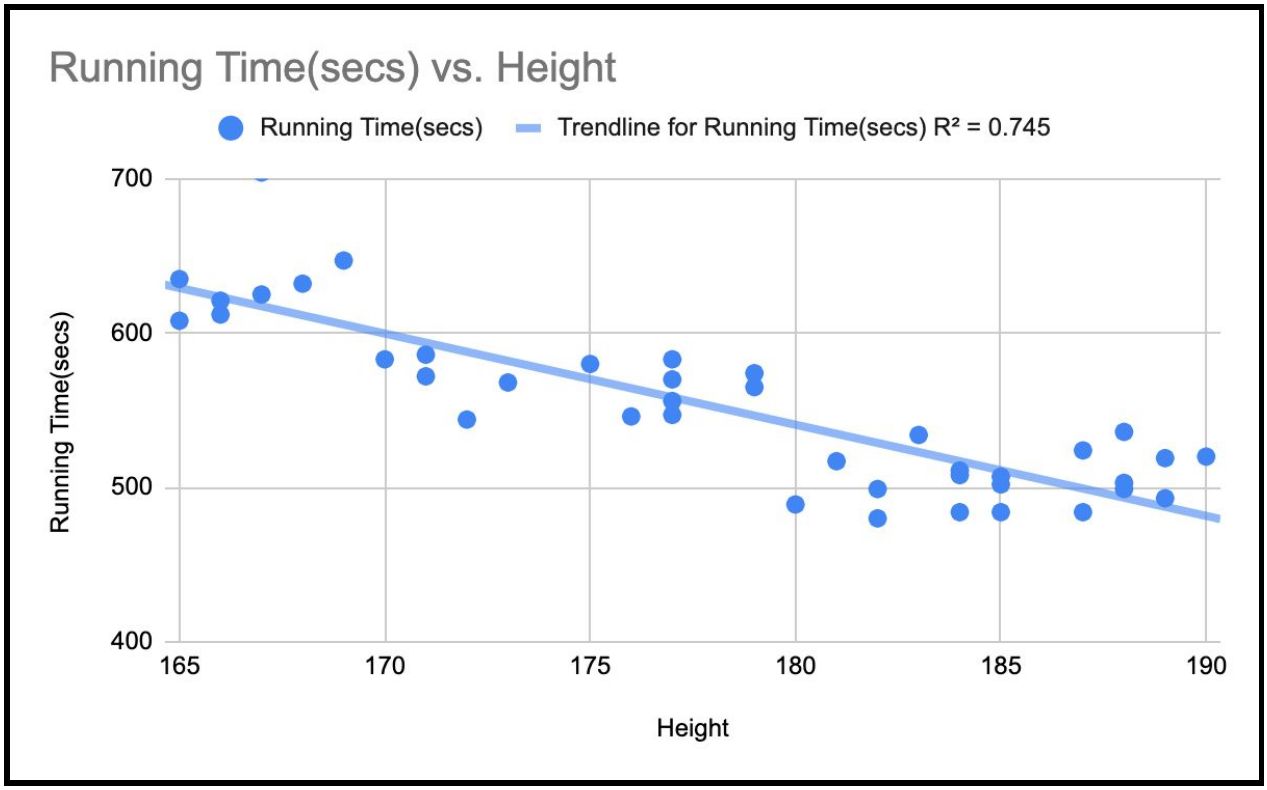
Please refer to the raw data in the attached excel file.

Processing Data

- We can use **scatter charts** for graphically representing data.



Analyze the findings

The hypothesis, Taller male individuals will have a shorter 2km run time than shorter male individuals due to the longer length of each stride required to cover the distance, seems to be valid according to the findings. We can see that the above image clearly shows that as height goes up (x-axis to right), the running time in seconds represented as the y-axis point on the trendline goes down. There are some outliers deviated from the trendline but it does not give severe contradiction to the conclusion. Thus, from the observation stated above, we can state the following: as male individuals get taller, they can cover 2km in much shorter runtime.

Potential limitations

The limitations could be in the midst of undercoverage and selection bias. The study was conducted on those who successfully completed basic military training by the Ministry of National Defense of the Republic of Korea and are undergoing continuous military training. Therefore, it was not possible to cover men who did not train physically frequently or were inherently ill in physical condition and health. Since only men in their 20s were observed to be eligible for mandatory service in Korea, it is not known whether it applies to men of other ages

except those in their 20s. In addition, the sampling data is not that large enough since only looking at 40 soldiers available for participation. If more accurate data is required, several fighter wings should require their soldiers to partake for the sake of securing a large data pool.