

Red Team

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STA 4382

JMP – Defects Assignment

In this assignment, we compared the output of 3 different methods of evaluating the defects in manufactured items. In the first problem, we reproduced the output in R and SAS that was identical to the output done in the experiment, which measured the defects as a function of different days. The second problem evaluated the defects as a function of time of day, and the third problem compared the defects as a function of time in the week.

We discovered upon producing these different outputs, that the study that compared the defective parts by day had around the same range of variability each day averaging around 10. The study that compared the time of day showed that although the average was still the same, there is definitely some correlation between the time of day and the number of defects. Additionally, the study that compared the time of the week to the number of defects, shows that there is a correlation between the time in the week and the number of defects.

This shift in focus for each output highlights a different key point. In the first problem, we can see how each day there is a similar range in defects, with seemingly random outliers. The second problem reveals that late morning and midafternoon seem to have the highest number of defects, while midmorning has the lowest. The third problem reveals that the defects recorded later in the week were higher than those recorded earlier in the week.