Statistics : Final Exam

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Exercise 1

Question 1

The population is the cones in the eye. The variable is the number of the L type of cone. In this case, the sample is the N cones observed.

Question 2

The population is the humans, the variable is the percentage of cone, and the sample here is the 10 people we observe.
The correlation test show, for $M_{\%}$ and $L_{\%}$, a correlation coefficient of -0.96 with a p-value of $1.0620 \cdot 10^{-5}$. This show that there is actually a correlation between $M_{\%}$ and $L_{\%}$, as the p-value is far lower than 0.05.
For $M_{\%} - L_{\%}$ and $S_{\%}$, the correlation coefficient is 0.192 and the p-value 0.5951. This test does not show a correlation between $M_{\%} - L_{\%}$ and $S_{\%}$ for this sample.
We can be pretty confident in the first correlation test, as the p-value is really low. Though, for the second test, it seems pretty unlikely that the test could show a correlation, as the p-value is above 0.5. This sample should be repeated to check this.