# LaTeX requires a little effort

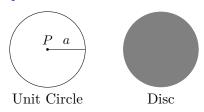
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# Drawing diagrams in LaTeX

#### **TikZ**

TikZ is incredibly powerful and flexible, here's an example diagram from a StackOverflow question.



### K Means Clustering in Python

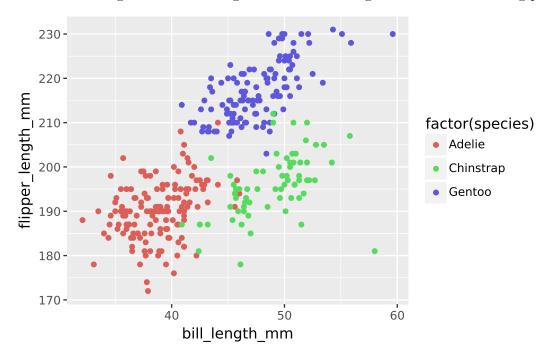
The scikit-learn library (PedregosaFabian et al. 2011) contains an implementation of the k-means clustering method.

One of the important equations in k-means clustering is shown below Equation 1.

$$\underset{\mathbf{S}}{\arg\min} \sum_{i=1}^{k} \frac{1}{|S_i|} \sum_{\mathbf{x}, \mathbf{y} \in S_i} \|\mathbf{x} - \mathbf{y}\|^2$$
 (1)

### Penguins clusters

The Palmer Penguins dataset is a great tool for showing how k-means clustering performs.



### References

PedregosaFabian, VaroquauxGaël, GramfortAlexandre, MichelVincent, ThirionBertrand, GriselOlivier, BlondelMathieu, et al. 2011. "Scikit-Learn: Machine Learning in Python." The Journal of Machine Learning Research, November. https://doi.org/10.5555/1953048.2078195.