

Multivariate probability and statistics

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Introduction

- ▶ Your introduction goes here!
- ▶ Use `itemize` to organize your main points.

Examples

Some examples of commonly used commands and features are included, to help you get started.

Tables and Figures

- ▶ Use `tabular` for basic tables — see Table 1, for example.
- ▶ You can upload a figure (JPEG, PNG or PDF) using the files menu.
- ▶ To include it in your document, use the `includegraphics` command (see the comment below in the source code).

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

Readable Mathematics

Let X_1, X_2, \dots, X_n be a sequence of independent and identically distributed random variables with $E[X_i] = \mu$ and $\text{Var}[X_i] = \sigma^2 < \infty$, and let

$$S_n = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{1}{n} \sum_i^n X_i$$

denote their mean. Then as n approaches infinity, the random variables $\sqrt{n}(S_n - \mu)$ converge in distribution to a normal $\mathcal{N}(0, \sigma^2)$.