How to Type Formulas Used in Calculus?

BY JACK YANSONG LI

Liii Network

Email: yansong@liii.pro

Calculus Notations

In this short tutorial, we will show you how to type the basic notations used in Calculus.

1 Notations used in calculus

- Infinity ∞. `@@`
- Integral $\int, \iint, \iiint, \iiiint, \oint, \oiint$. `I+Tab`, `I+I+Tab`, ..., `@+I`, `@+I+I`.
- Greek letters δ,Δ,ε,ϵ. `d+Tab`, `D+Tab`, `e+Tab`
- Operators: $\sum$, $\prod$. `S+Tab+Tab`, `P+Tab+Tab`

2 Sub and Superscript

In **math mode**:

- The Superscript is entered through `^` (`shift+6`). For example: x_i
- The Subscript is entered through `_` (`shift+-`). For example: x^i
- The Superscript above is entered through selecting the term and enter `alt/option+A`. For example: $\overset{\text{above!}}{x}$
- The Subscript above is entered through selecting the term and enter `alt/option+B`. For example: $\underset{\text{below!}}{x}$

For operators such as $\lim$, $\sum$, $\int$, the subscript below and superscript above are entered automatically by `^` and `_` in displayed formula. For example, by entering `^` and `_` for $\sum$ in displayed formula, we get

$$\sum_{i=1}^{\infty}$$

instead of $\sum_{i=1}^{\infty}$.

3 Problem and solution environment

By typying `\problem` and hit `enter`, you get

Problem 1. This is an example problem. Please calculate

$$\int_a^b x^2 \mathrm{d}x.$$

Similarly, by `\solution` and hit `enter`

Solution 1. By Newton-Leibniz Theorem,

$$\int_a^b x^2 \mathrm{d}x = \left[\frac{1}{3}x^3\right]_a^b = \frac{1}{3}(b^3 - a^3).$$