

# The Knowledge LaTeX Package

## Towards Semantic LaTeX

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01 / 07 / 2022



Laboratoire  
Méthodes  
Formelles





Semantic: separation of “meaning” and “representation”.



The difference between

`\textit {my text}`

and

`\emph {my text}`



```
\newcommand\upc{\mathop{\uparrow}\nolimits}
\newcommand\dc{\mathop{\downarrow}\nolimits}
\newcommand\dwc{\mathop{\downarrow}\nolimits}
\newcommand\Down{\mathop{\mathit{Down}}\nolimits}
\newcommand\Res0[2]{\#1}_{\ngeq \#2}}
\newcommand\ResW[2]{\#1}_{\orth \#2}}
\newcommand\ResH[2]{\#1}_{< \#2}}
\newcommand{\orth}{\bot}
\newcommand{\leqaug}{\leq_{\text{aug}}}
\newcommand{\leqstruct}{\leq_{\text{st}}}
\newcommand{\embeds}{\leqstruct}
\newcommand{\reflects}{\hookrightarrow}
\newcommand{\refl}{\hookrightarrow}
\newcommand{\augments}{\geq_{\text{aug}}}
\newcommand{\lexleq}{\leq_{\text{lex}}}
\newcommand{\geqaug}{\geq_{\text{aug}}}
```



```
\newcommand\trsklynd{Tarski-Lyndon Theorem}  
\newcommand\ltrsk{\L{}o's-Tarski Theorem}  
\newcommand\ChLoSu{Chang-\L{}o's-Suszko Theorem}  
\newcommand\hpt{Homomorphism Preservation Theorem}  
\newcommand{\puext}{preservation under extensions}
```

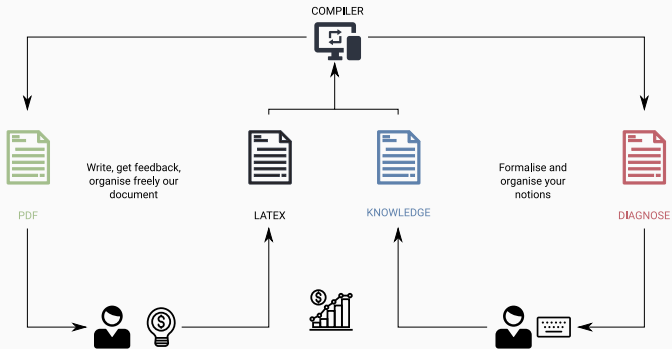
**Going Full Semantic**



## Requirements

- I don't want to type complicated commands
- I want to point to the introduction of a notion in my document
- I want to have an index of all the notions introduced
- I want to have several representations for the same notion
- I want to be able to publish, print, and use my LaTeX document as usual

# The Knowledge Package



**Figure 1:** The Knowledge Workflow

**DEMO**





<https://www.ctan.org/pkg/knowledge>

<https://github.com/remimorvan/knowledge-examples>

**Thank you 😊**

