Correspondence between closed λ-terms and Topological Graphs Combinators

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Resumo

It is already known that exists a correspondence between linear $\lambda-$terms (`BCI`) and rooted trivalent graphs, first noticed by Zeilberger[2], this correspondence can be extended to linear $\lambda-$terms with canceling abstractions (`BCK`) if consider rooted $(2,3)-$graphs. The main purpose of this work is presenting an extended definition of graphs such that it is possible to represent the combinatorial logic over graphs, called *graphs combinators* and the concept of typed graphs.

Referências

[1] Barendregt, H. P. (1984) - The Lambda Calculus: Its Syntax and Semantics PhD Thesis, 2012 *Studies in Logic 103, second, revised edition, North-Holland, Amsterdam*

[2] Zeilberger, N. - Linear lambda terms as invariants of rooted trivalent maps *Journal of Functional Programming 26, Cambridge University Press, 2016*

[3] Zeilberger, N. - A correspondence between rooted planar maps and normal planar lambda terms. *Logical Methods in Computer Science, 11(3:22):1–39*