

Problem #54

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Summary: In combinatory logic, is there a uniform universal generator?

Recall that M is a *universal generator* if each combinator P has a superterm Q such that $M \rightarrow^* Q$. Call M a *uniform universal generator* if there exists a context $C[\cdot]$ such that, for each combinator P , we have $M \rightarrow^* C[P]$. Is there a uniform universal generator? (For Combinatory Logic, if we restrict the context $C[\cdot]$ to be of the form $(N\cdot)$, no such term exists [Sta92].)

Bibliography

- [Sta92] Richard Statman. A short note on a problem of Ray Smullyan.
Technical report, INRIA-Rocquencourt, 1992.