

Incompleteness is Good for Logic

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- 1 Logic is incomplete, but so is Mathematics. So there is no distinction between Logic and Mathematics on this point.
- 2 If there were a decision procedure for Logic generally, then Logic would be complete. But Logic could be complete without there being a decision procedure. In the second case needed proofs would always exist, but might be hard to find. Creativity would be needed to find proofs even though they would exist. In the first case it would be that in some cases there would simply be no proof. On this see <https://en.wikipedia.org/wiki/Entscheidungsproblem>
- 3 If there were a decision procedure for logic, it could be programmed and there would be no theoretical need for logicians or mathematicians. If it were decidable, but without a decision procedure, there would be creative work for mathematicians and logicians.
- 4 The lack of a decision procedure ensures an potentially infinite amount of creative work for Logicians and Mathematicians.