How To Check A Proof With A Computer
and the Curry-Howard Correspondence

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Picture this: you think you have just come up with the proof of the Riemann Hypothesis, or that $\mathbf{P} \neq \mathbf{NP}$, or some other famous long-standing open problem. **How do you know the proof you have is correct?** If the proof is long and/or excessively complicated, it will be difficult for people to check by hand – as such, what if there were ways for a computer to help or even prove theorems for us?

We're going to look at how computers do this and know how to

Here's a roadmap for

1 Logics and Deduction

2 Crash Course: Functional Programs

3 Type Checking

4 The Correspondence

4.1 Types are Propositions

4.2 Programs are Proofs