What's in a Proof?

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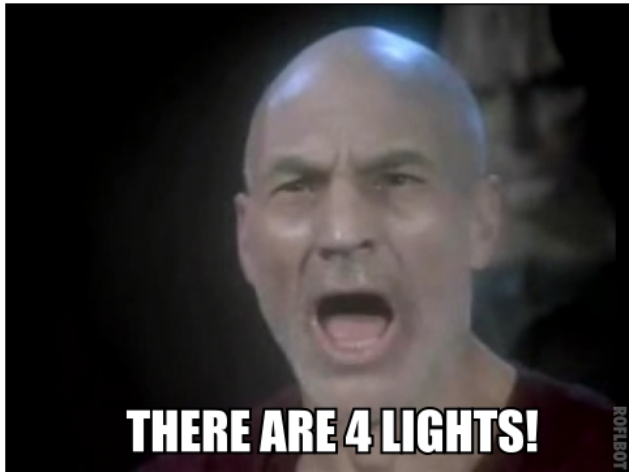

An Anecdote

The Reason

```
Theorem a: 2 + 2 = 4.
```

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```
Proof.
  trivial.
Qed.
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Coq

- An interactive theorem prover started in 1984
- Provides a formal language and environment for mathematical definitions, algorithms, theorems, and machine-checked proofs
- Language based on a derivative of the calculus of constructions (CoC)

Example

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Theorem two_and_two_make_four: 2 + 2 = 4.
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Example

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Theorem two_and_two_make_four: 2 + 2 = 4.
Proof.
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```