

Agda, a *beautiful* proof assistant

second part of the course TEORIA DEI TIPI • begin April 29th, 2020 • by Ingo Blechschmidt

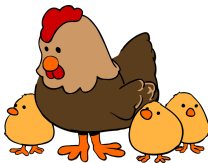
Agda is ...

- 1 a programming language
- 2 a **proof language**

```
File Edit Options Buffers Tools Agda Help
data N : Set where
  zero : N
  succ  : N → N

add : N → N → N
add n zero      = n
add n (succ k) = succ (add n k)
```

⏏ bz.agda All L7 <I> (Agda:Checked +4 Undo-Tree)



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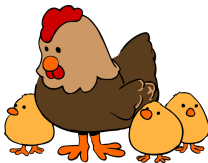
Agda is ...

- 1 a programming language
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With Agda you can ...

- 1 ensure **correctness** of proofs
- 2 **practically explore** type theory
- 3 appreciate mathematics from a new point of view

“proving = programming”



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Agda is ...

- 1 a programming language
- 2 a **proof language**
- 3 somewhat hard to learn on one's own
- 4 **fun and easy** to learn as part of a course

With Agda you can ...

- 1 ensure **correctness** of proofs
 - 2 **practically explore** type theory
 - 3 appreciate mathematics from a new point of view
- “proving = programming”**