



Formal Inception

A Lean4 automated theorem prover

End-to-end theorem proving

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LEAN 4 — STATEMENT

Theorem.lean

-- Gauss's summation identity
theorem gauss_sum (n : ℕ) :
  2 * ∑ i ∈ Finset.range (n + 1), i
    = n * (n + 1) := by
  sorry
```

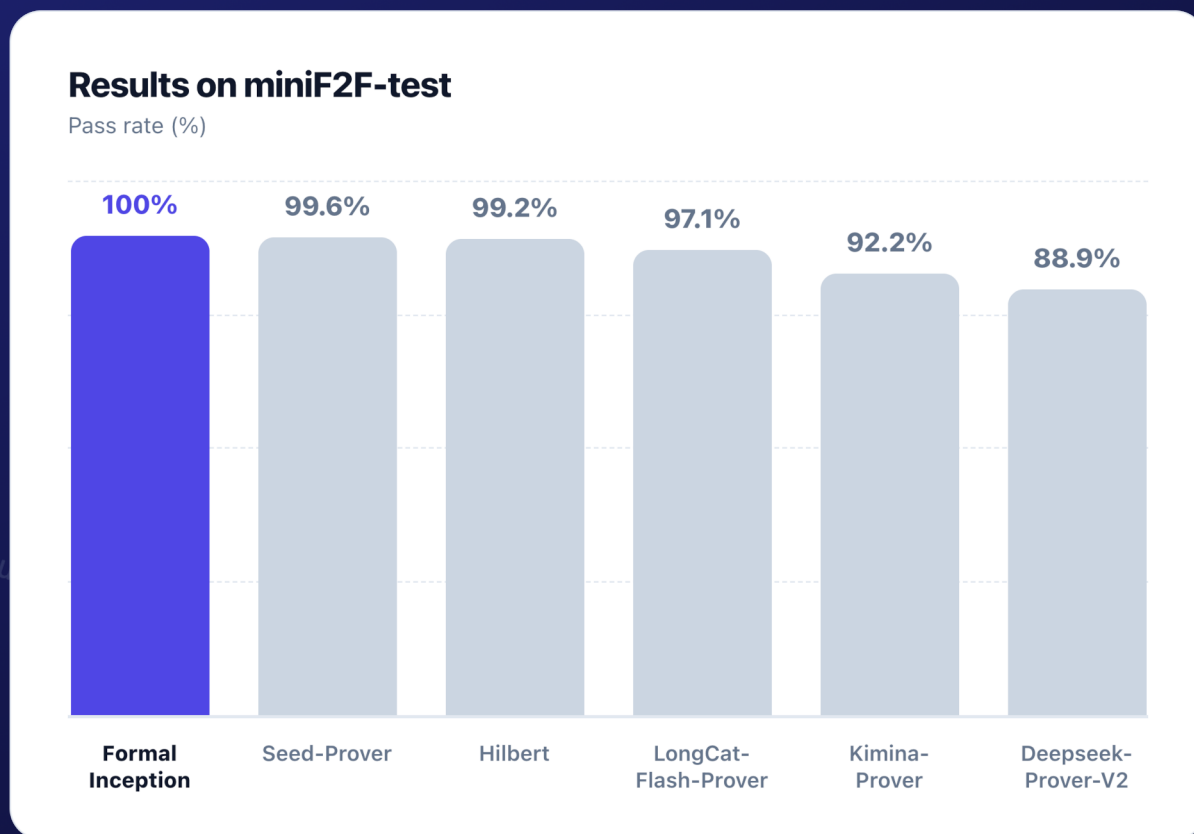


```
LEAN 4 — PROOF ✓

Theorem.lean

-- machine-checked proof
theorem gauss_sum (n : ℕ) :
  2 * ∑ i ∈ Finset.range (n + 1), i
    = n * (n + 1) := by
  induction n with
  | zero => simp
  | succ k ih =>
    rw [Finset.sum_range_succ, mul_add, ih]
    ring
```

Benchmarked against frontier provers



Built on modern technological stack

Lean 4	Python 3	Pydantic-AI	OpenRouter	Docker	Langfuse	Google Cloud	LeanSearch
Proof assistant & target language	Core orchestration language	Agent framework & structured LLM I/O	Unified gateway to LLM providers	Reproducible containerized builds	LLM observability & tracing	Deployment & infrastructure	Semantic search over Mathlib

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SCAN ME