

数理逻辑（2025 春）作业 - 02

I 编程题

用 Lean4 形式化课堂上的两个 *Sorties* 例子，将前面 $n - 1$ 条前提作为 axioms，第 n 条命题（或其否定）作为 theorem 并证明它。

1.1 Illogical Babies

1. **Ax1:** Babies are illogical;
2. **Ax2:** Nobody is despised who can manage a crocodile;
3. **Ax3:** Illogical persons are despised.
4. **Prop:** Babies cannot manage crocodiles.

1.2 Kitty and Gorilla

1. **Ax1:** No kitten, that loves fish, is unteachable;
2. **Ax2:** No kitten without a tail will play with a gorilla;
3. **Ax3:** Kittens with whiskers always love fish;
4. **Ax4:** No teachable kitten has green eyes;
5. **Ax5:** No kittens have tails unless they have whiskers.
6. **Prop:** Kitten with green eyes will play with a gorilla?