Define the $k$-times iterated logarithm $\ln^k x = \ln \cdots \ln x$.

**Problem.** *Prove or disprove* the claim that there exist sequences $(a_n)_{n=1}^{\infty}$ and $(b_n)_{n=1}^{\infty}$ such that $\lim_{n \to \infty} [\ln^k a_n - \ln^k b_n] = +\infty$ for all $k$.

- Partial credit may be given for partial answers.
- Each POW will be due the following week at 1pm.
- Questions? Email: bthorner@unomaha.edu
- Submit solutions to (above email), DSC 210, or DSC 203.
- POWs, solutions, backgrounds, leaderboard available at