COMP 352: Data Structures and Algorithms
Winter 2025 – Programming Assignment 1
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Observations on Tetranacci Implementations

1. **Linear Recursion:**
    - Fast and works well.
    - Execution time is always 1 ms (0.001 s) or less.
    - Can handle large numbers up to 200 without issues.
2. **Multiple Recursion:**
    - Works for small numbers.
    - Becomes very slow as numbers get bigger.
    - Tetranacci(40) took 419.5 seconds.
    - Program stopped at 45 because it took too long (80 minutes or 4800 s).
3. **Tail Recursion:**
    - Same performance as linear recursion.
    - Execution time is 0 or 1 ms (0.001 s).
    - Can handle big numbers up to 200 easily.

Conclusion:

- Linear and tail recursion have the same performance.
- Multiple recursion is too slow and not useful for big numbers.