Amoritized Analysis

CLRS (Chap. 17)

Bound $\sum a_i$ by $\sum t_i$ where a_i is amoritized cost and t_i is
real cost.
Costs only considered in sequences.
Prove bounds on average running-time *of* the worst case, **not** the average case.

Aggregate Analysis

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- All operations considered to be same running time.
- Multipop stack example: can only be O(n) since can only pop what you push.
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Banker / Accounting

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- Different operations can have different running times
- Difference of $a_i - t_i$ is *credit*, that can help 'pay' for future operations
- "Total credit must be non-negative at all times"
    - Negative credit is like undercharging earlier operations with the promise of paying th
- Stack example
    - Pushing uses one dollar *immediately*
    - Popping has no charge, we use credit (we take the dollar off the plate at the top of t
    - "charging push operation a little bit more, we can charge pop nothing"
    - there is always a positive number of credit since pushing adds one dollar.
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Physicist / Potential

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Dynamic Tables

Okasaki