Project 2

Soumya Basu

Department of Computer Science
Cornell University

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Administrivia

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- Project 2 is due on September 30

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- Ground Truth

First Hint

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Fix Project 1 Bugs!!!

Purpose

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- Made a major assumption in Project 1…
  - Threads behave nicely and give up the CPU
- Issues?
  - Selfish Threads
  - Potential Security risks

The Three Parts

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- Specs say 5…

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  - Start Receiving Clock Interrupts

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  - Why do we care?

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  - Start Receiving Clock Interrupts
  - Add Alarms
    - Makes Thread Sleeping Possible
    - Why do we care?
- Multilevel feedback queue scheduler

Receiving Clock Interrupts

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- Difference between:

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  - Testing/Coding
  - Final Product

Receiving Clock Interrupts

- KISS: Keep It Simple Student!
- Difference between:
  - Testing/Coding
  - Final Product
  - Changing Clock Period, Print Statements, etc.

Alarms

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- Performance matters!

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  - How long does it take to find an element in your Project 1 queue?

Alarms

- Performance matters!
  - How long does it take to find an element in your Project 1 queue?
  - Is that good enough?

Scheduling

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Scheduling

- Let's take stock of where we are…
  - You have an OS
  - Many Threads are Running
  - Now forcing them to give up the CPU
  - How do we pick who's next?

Round Robin

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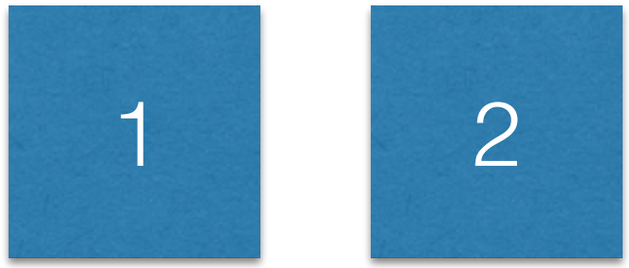
Round Robin



Round Robin

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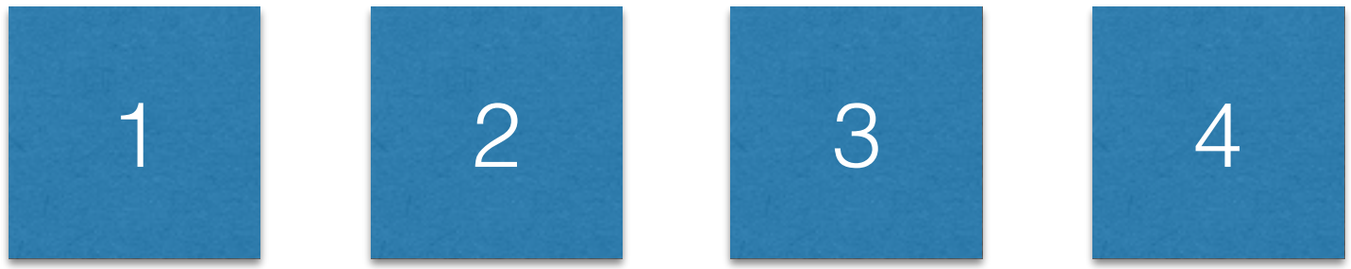

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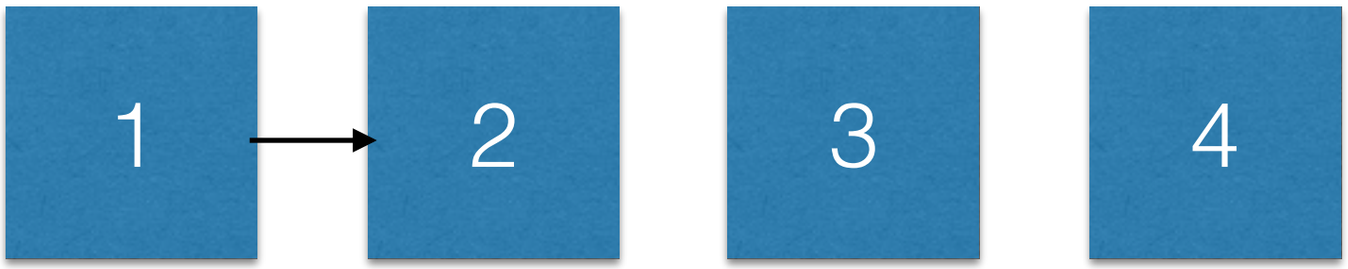

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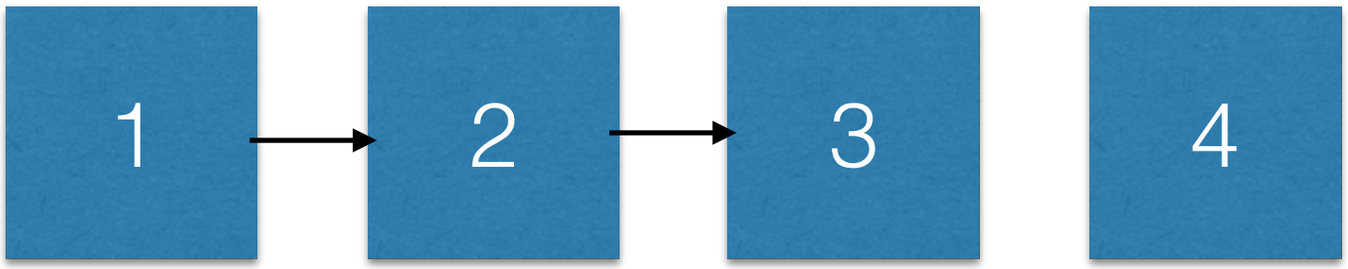

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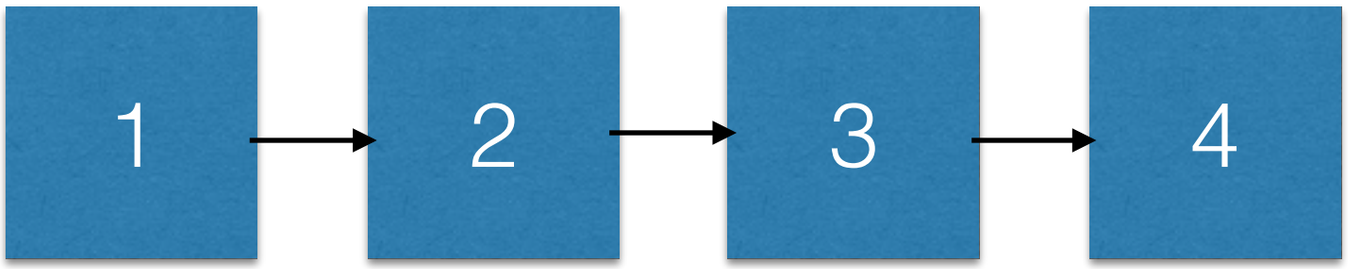

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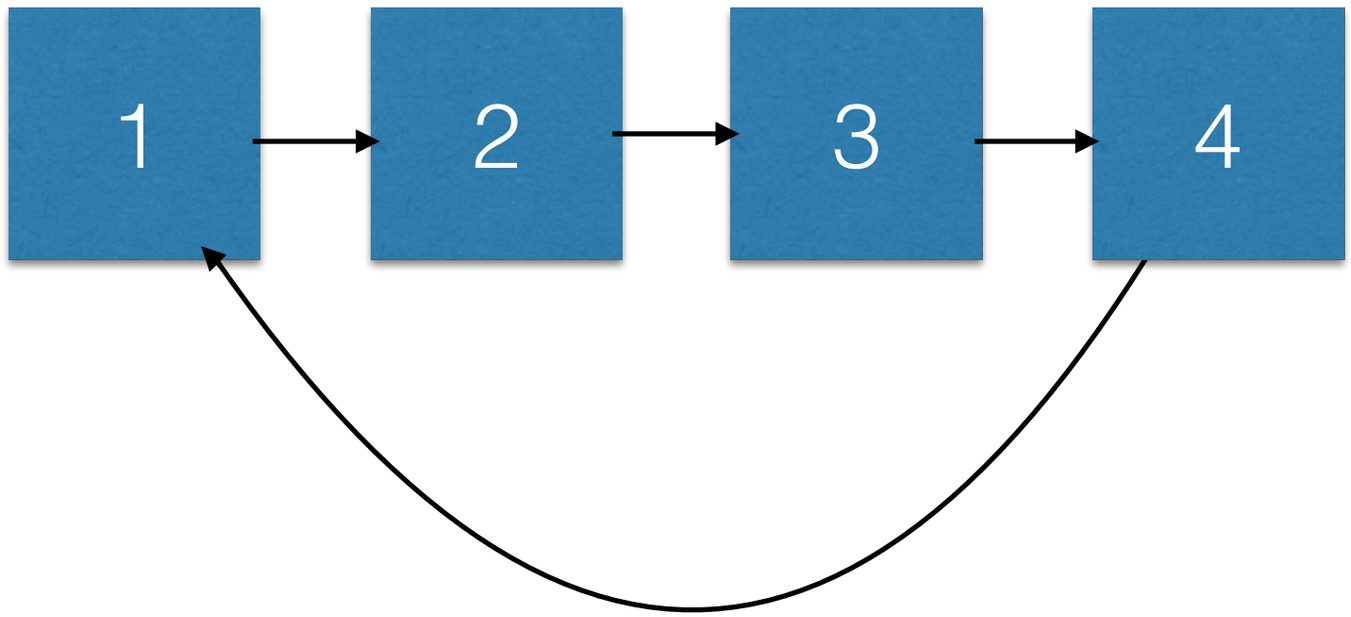

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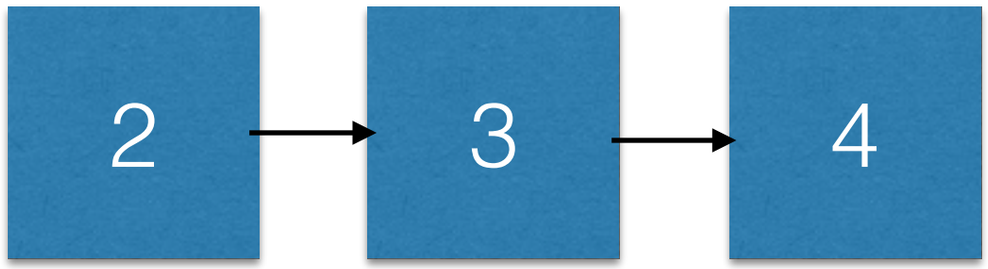

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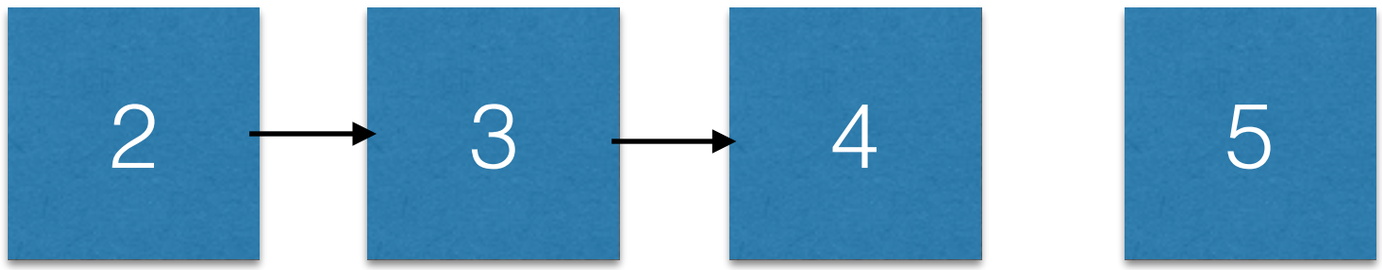

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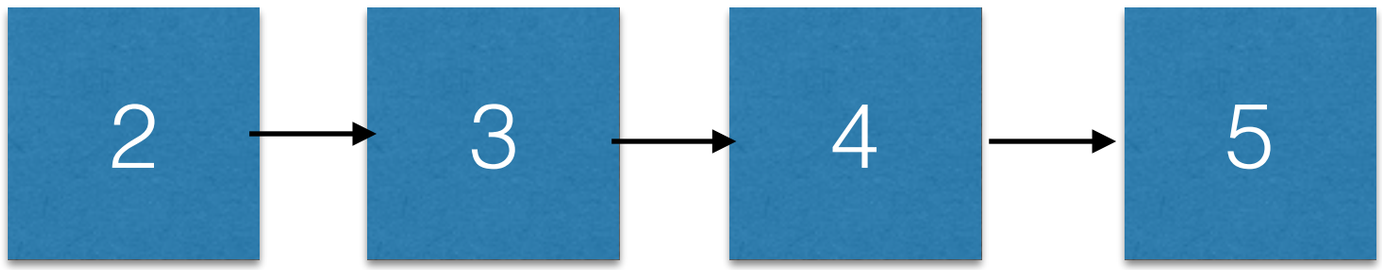

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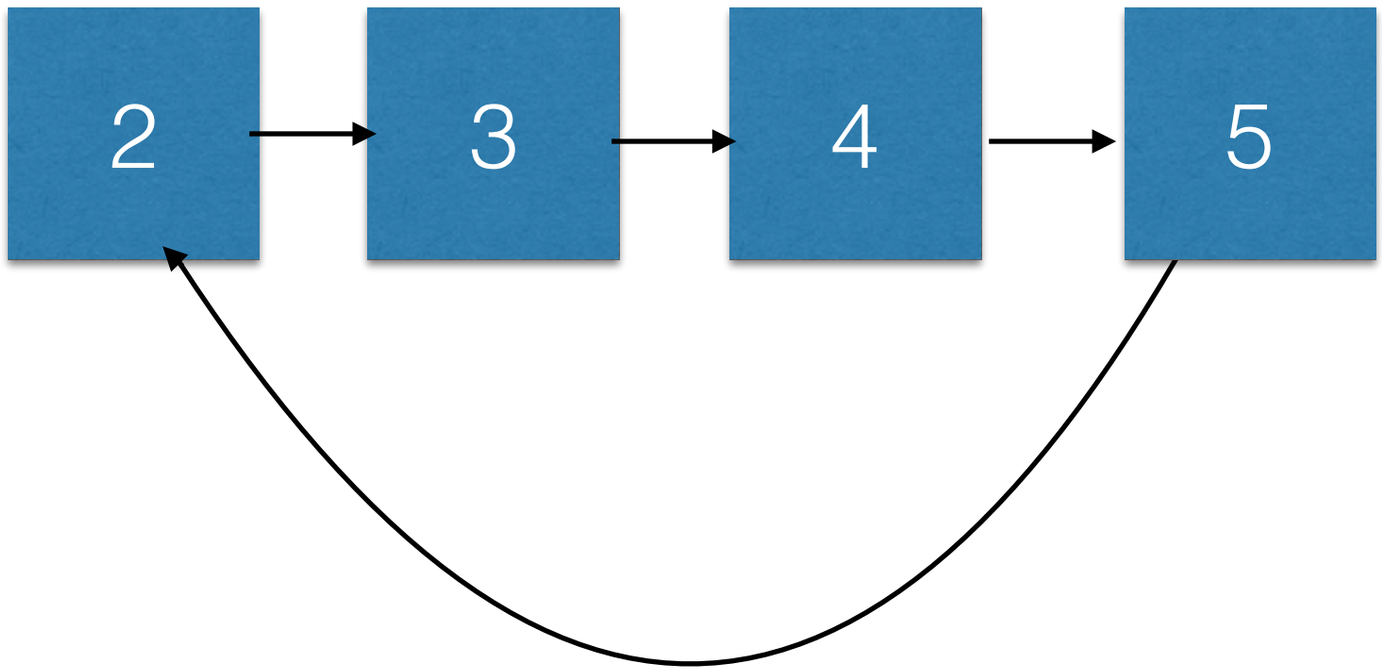
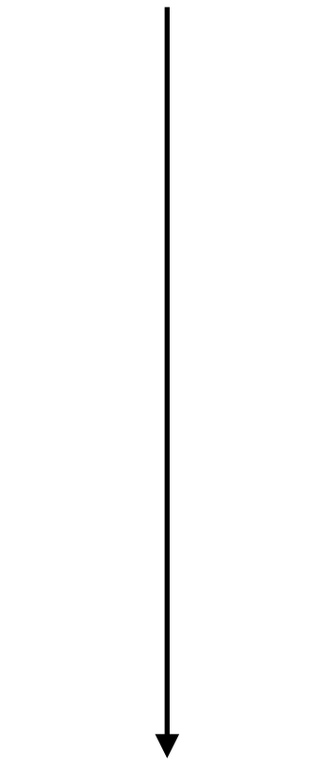


Multilevel Queue



Multilevel Queue

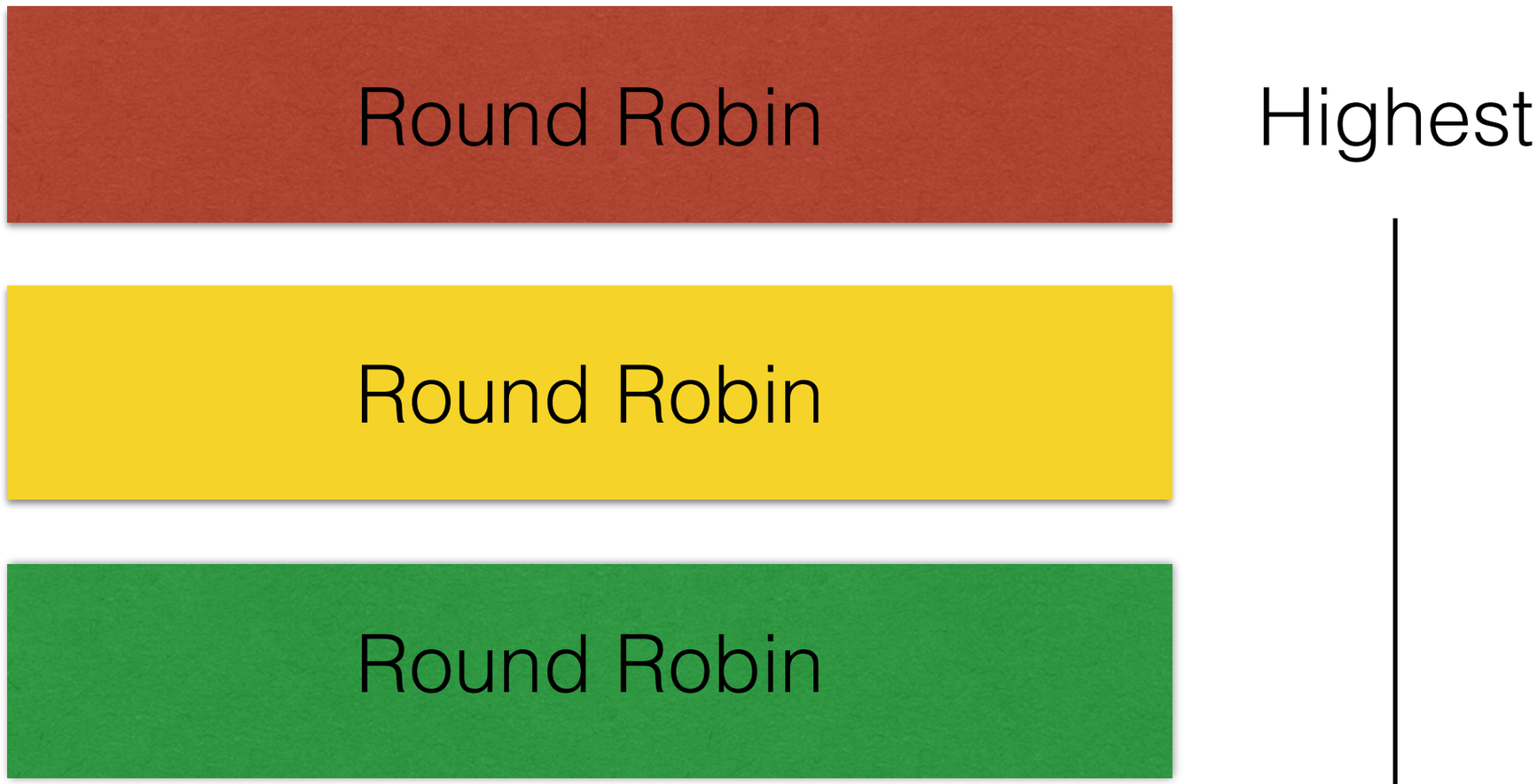
Round Robin

Highest

Lowest

Multilevel Queue

Multilevel Queue



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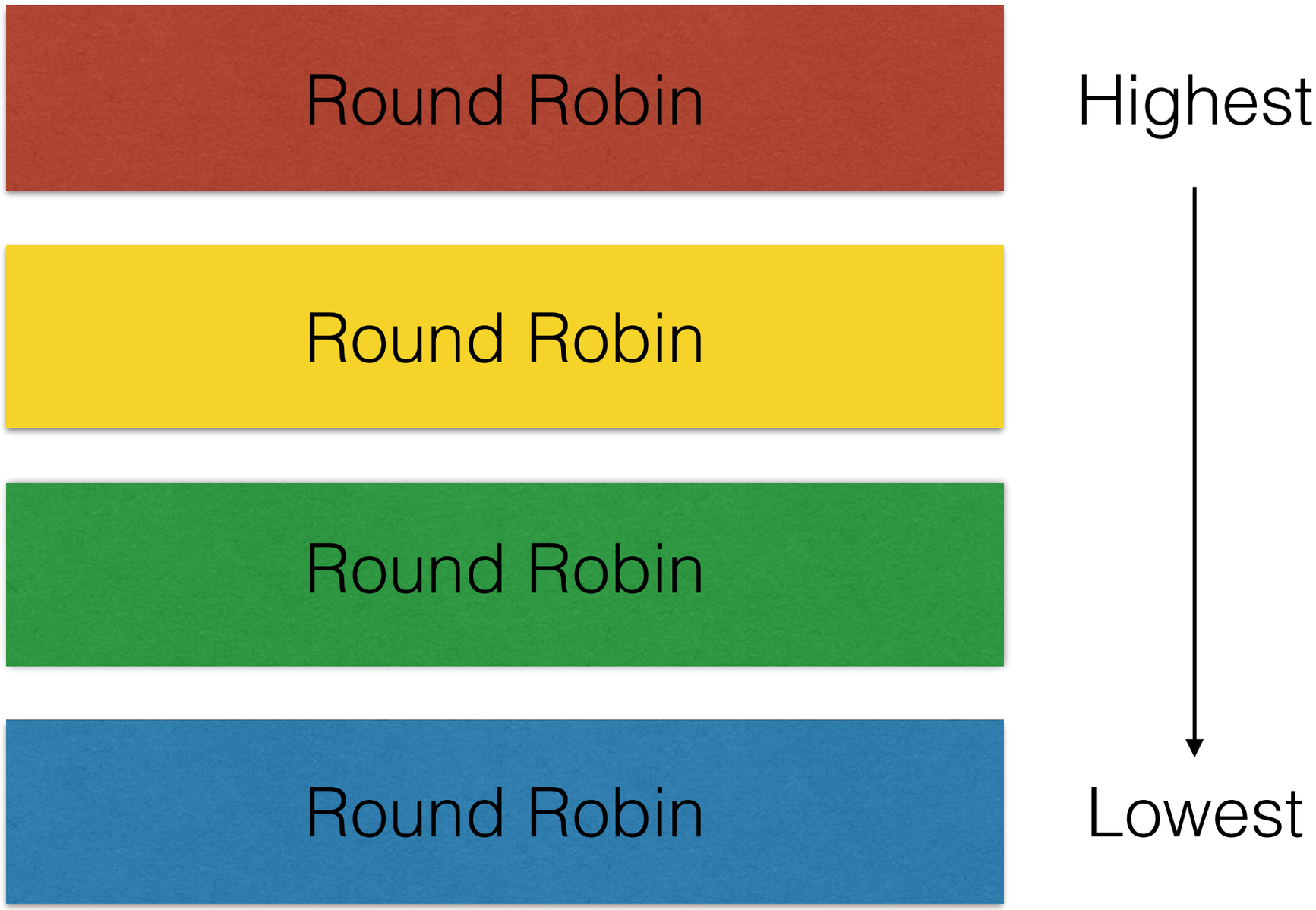

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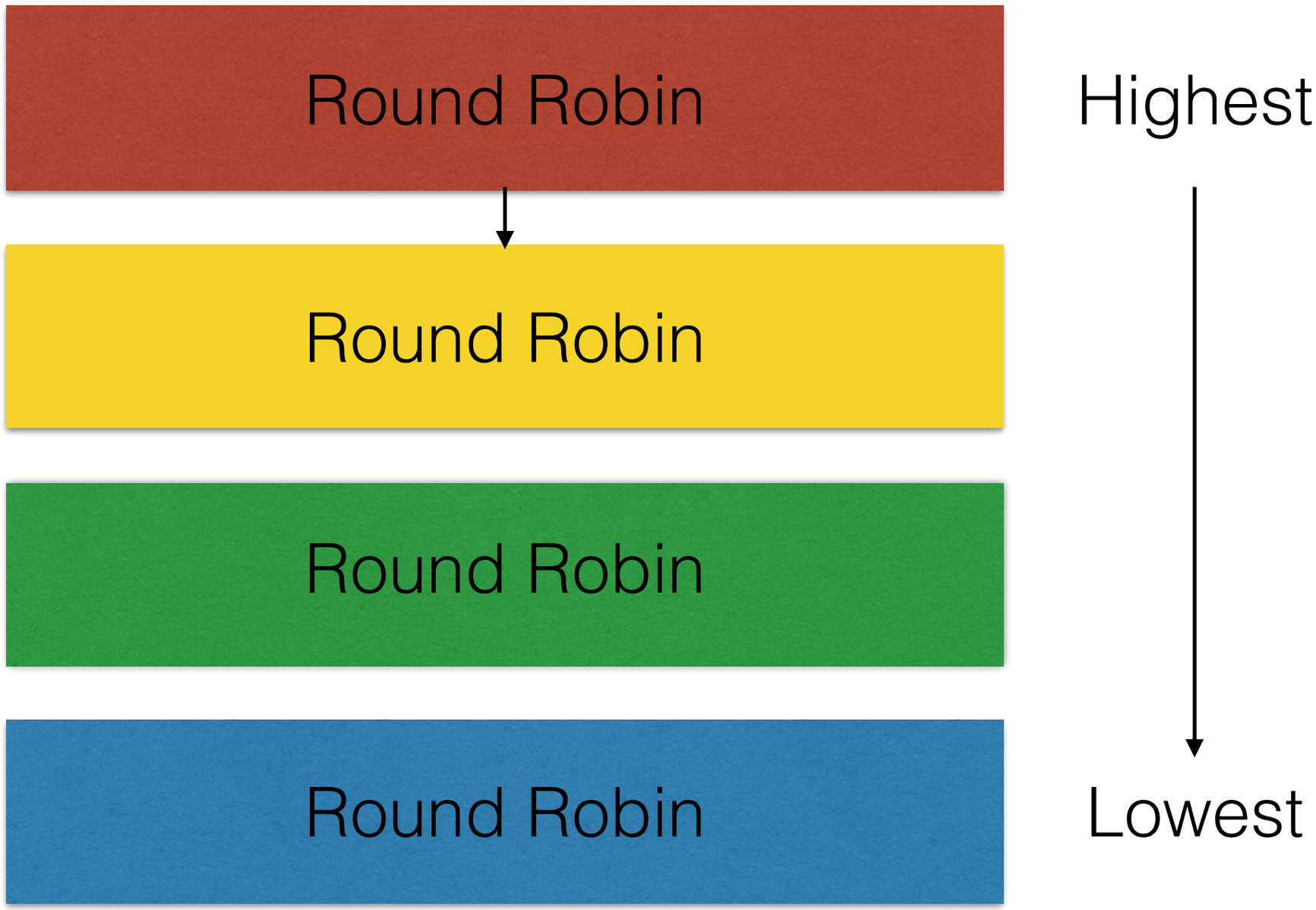

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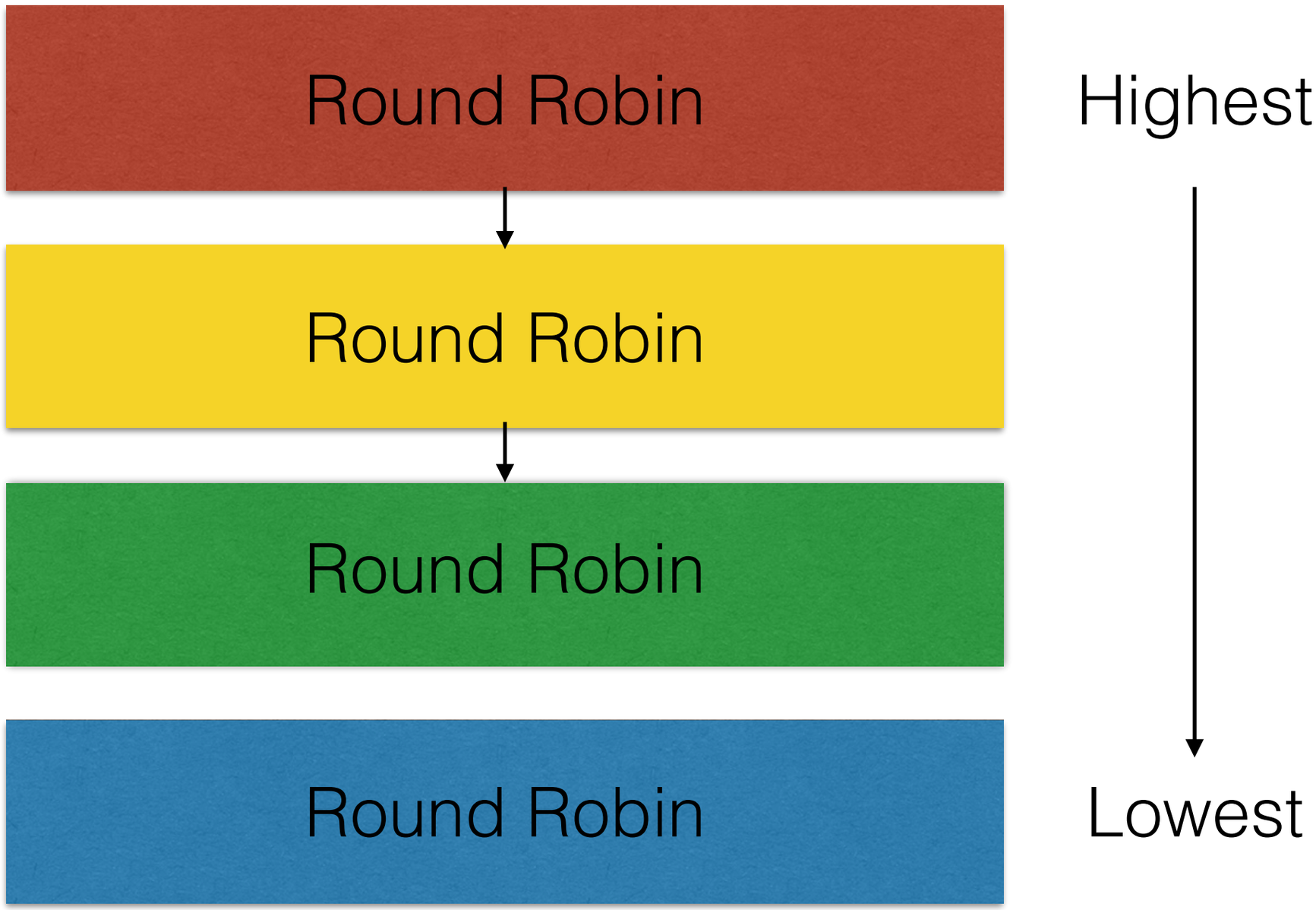

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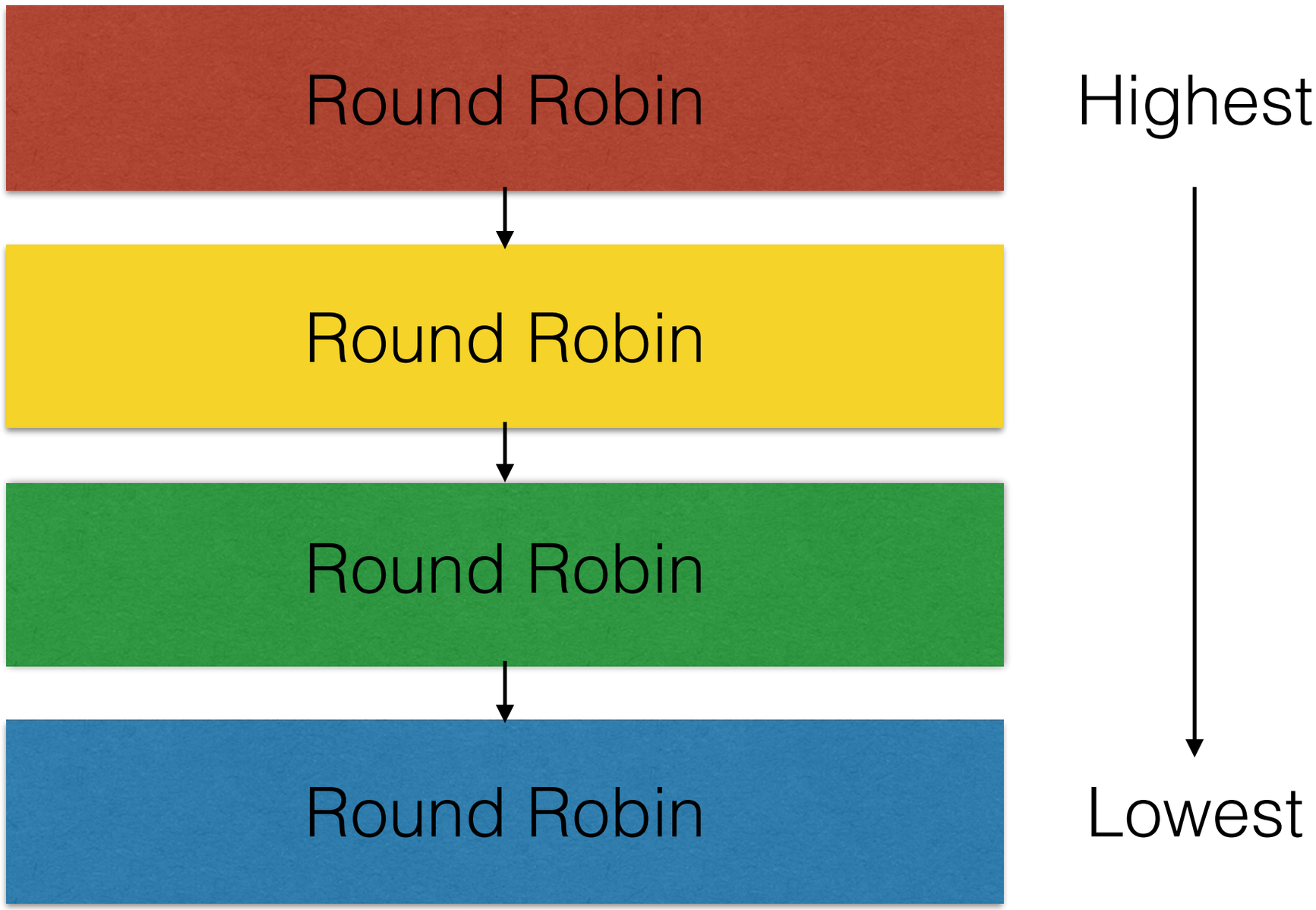

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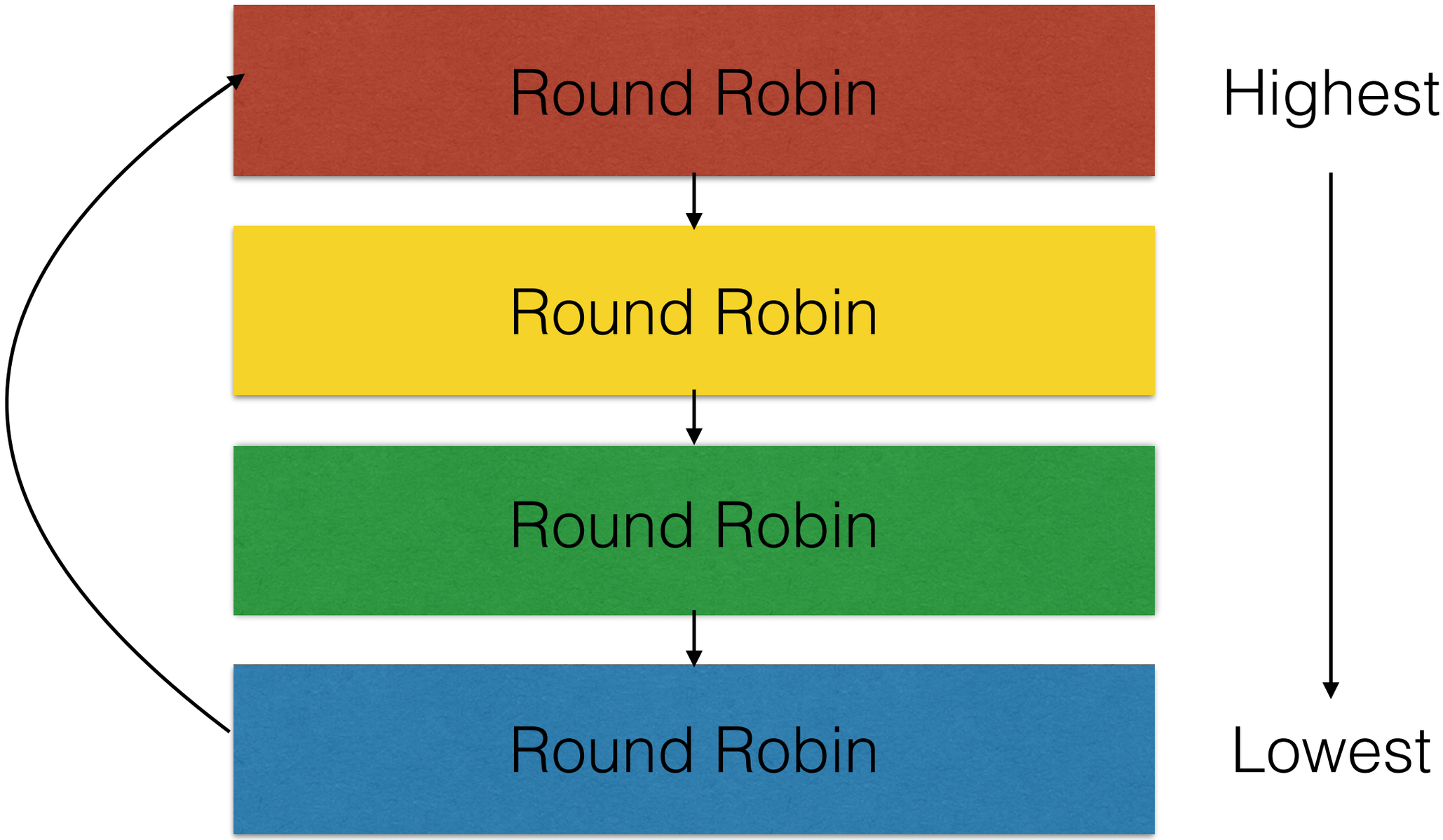

GDB (Gnu DeBugger)

Demo

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