3827 OH

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Overview

1. Announcements
   - Upcoming Exams and Homework
   - Feedback
2. Homework 8 Material
   - Overview and Relevant Lectures

Announcements

Announcements: Upcoming Exams and Homework

- HW8 due 4/15

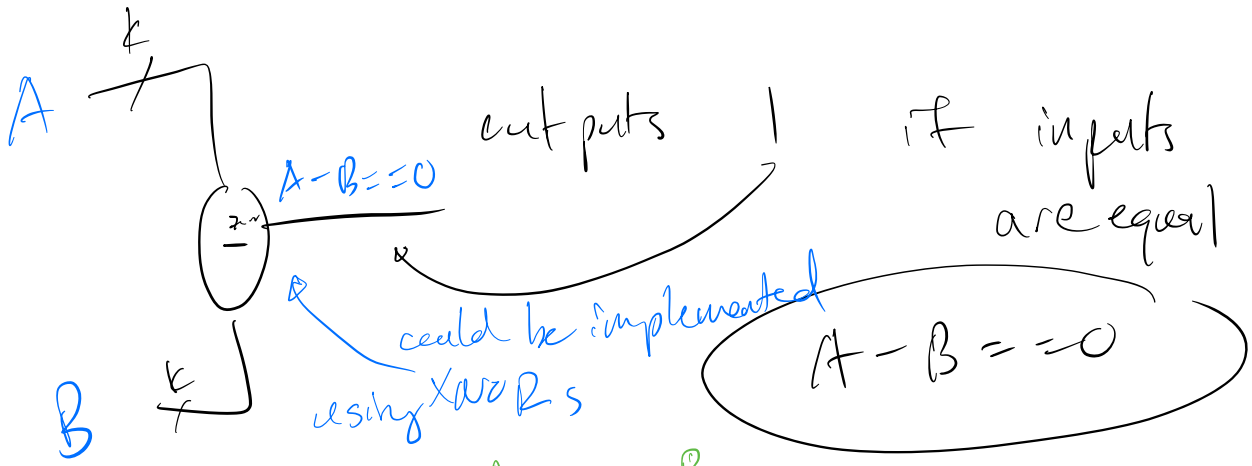
Announcements: Feedback

- Form: `https://forms.gle/cnUmKVNYN7WvRbHA6`

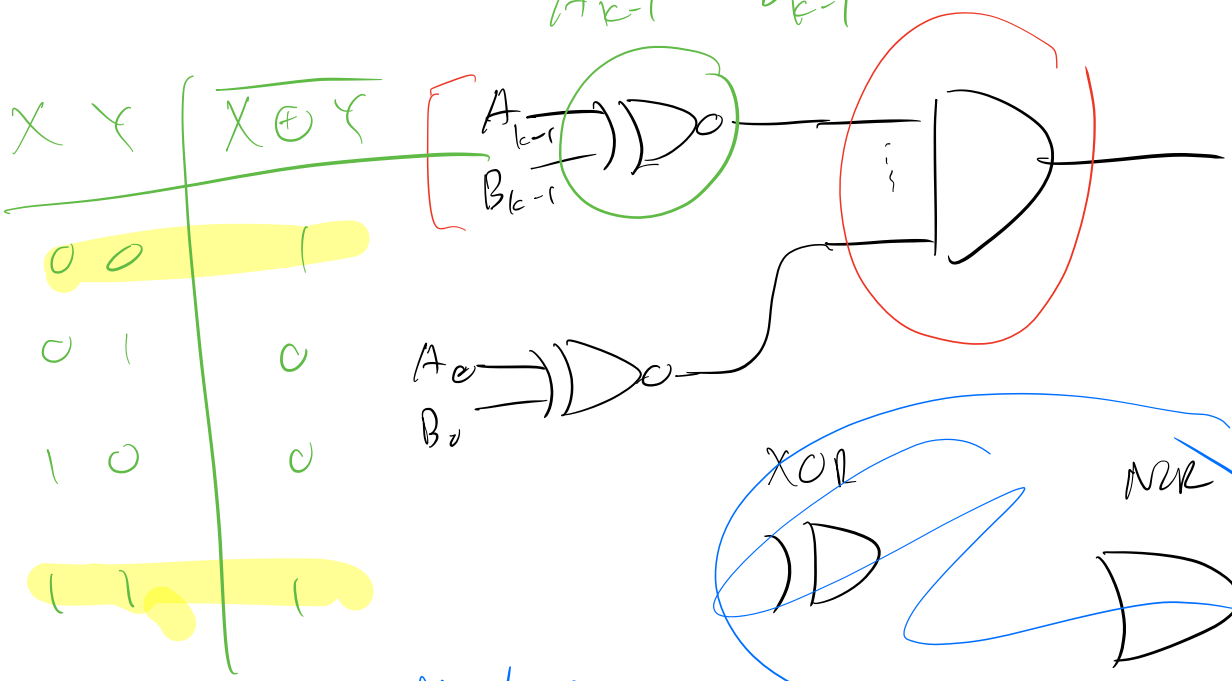
Homework 8 Material

Homework 8 Material: Overview and Relevant Lectures

- Five stages of MIPS pipeline, but without pipeline registers (Lecture 12, Slide 17)
- Pipelined CPU with controls (Lecture 12, Slide 58)
- Examples of instructions in pipeline (Lecture 12, Slides 32-53)
- Dependencies (Lecture 12, Slides 59-67)
- Hazards (Lecture 12, Slides 68-81)
- Avoiding Hazards with NOP (Lecture 12, Slides 82-87)
- Write-before-Read Reg File (Lecture 12, Slides 88-100)
- Data Hazard Handling (Lecture 12, Slides 108-171)
  - Data Forwarding (Lecture 12, Slides 132-171)
- Branching Hazard Resolution (Lecture 12, Slides 188-199)
- Move Conditional Check Forward, or Early Branch Resolution (Lecture 12, Slides 200-220)
  - Example for early branch resolution (Lecture 12, Slides 241-249)
- Hazard Resolution Examples (Lecture 12, Slides 221-249)



$A_{k-1} == B_{k-1}$



transistor count

Shift left by 2
↳ multiplying by 4
(or concatenating 2 "0"s)

$\ldots B_k \ldots B_0 \xrightarrow{SL2} \ldots B_k \ldots B_0\,0\,0$