

Game of **MANCALA**

CREATED BY

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Plan of presentation

- Introduction
- Description of unique circuits
- Gameplay scheme
- Memory planning
- AI player
- Difficulties
- Review

Our team

**Anton
Tsoy**

Assembly
Logisim

**Michael
Kozoliy**

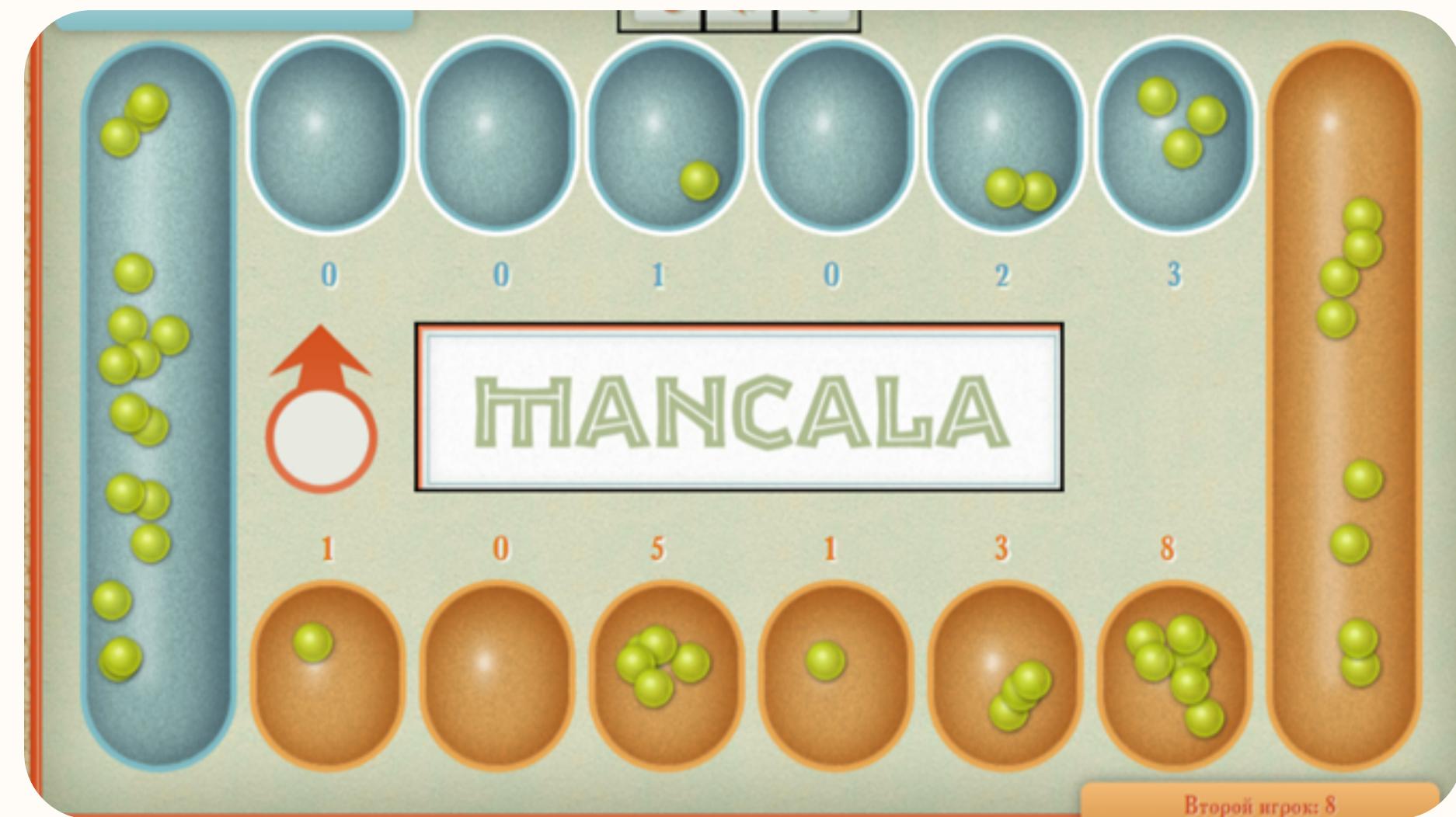
Logism,
Presentation

**Vyacheslav
Vetrov**

Assembly,
Presentation

What is Mancala?

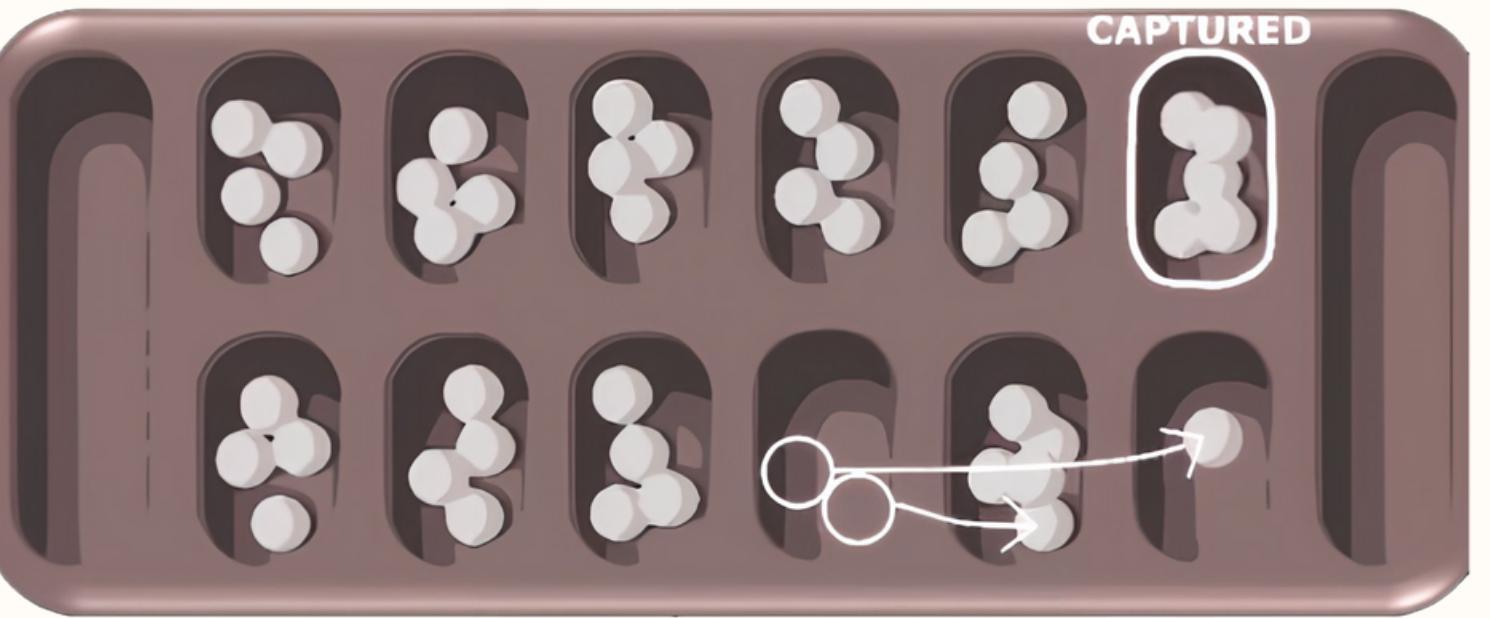
- Stones are placed in each pit
- Move: taking all the stones from one of the player's pits and distributing them counter clockwise.



Special rules

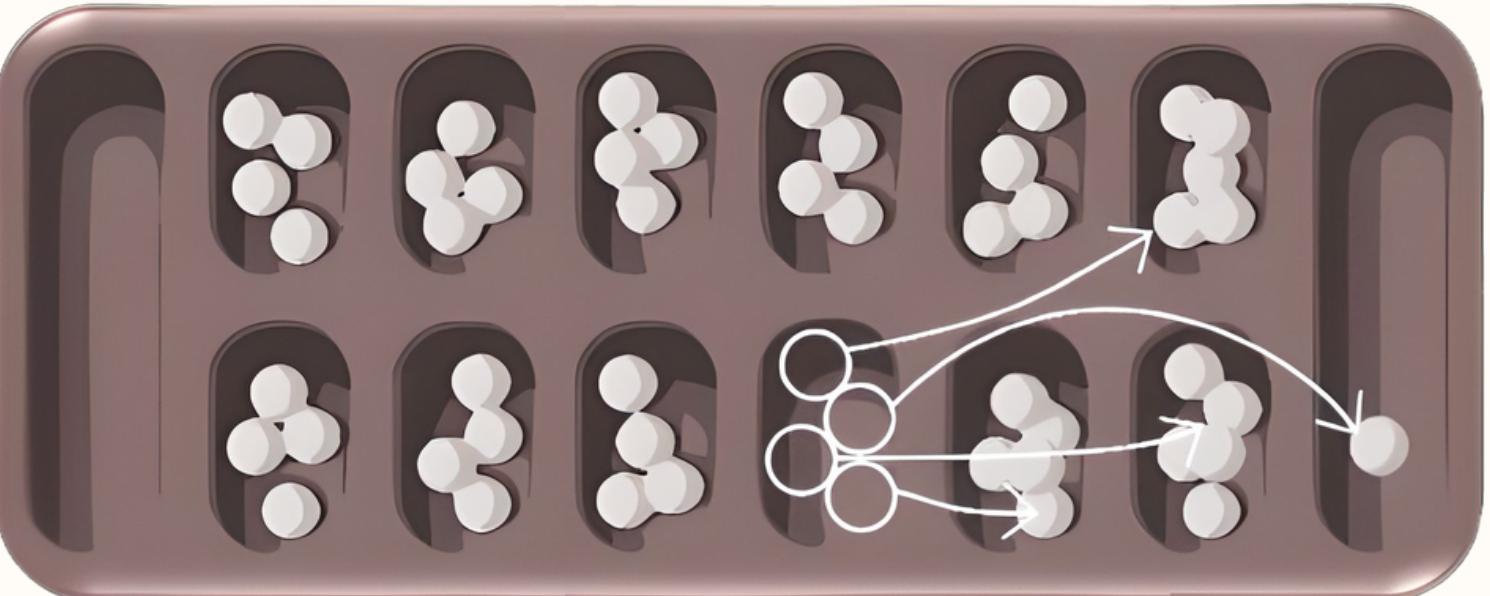
Capture Rule:

You can capture opponent's seed if your last seed drops into an empty hole on your side

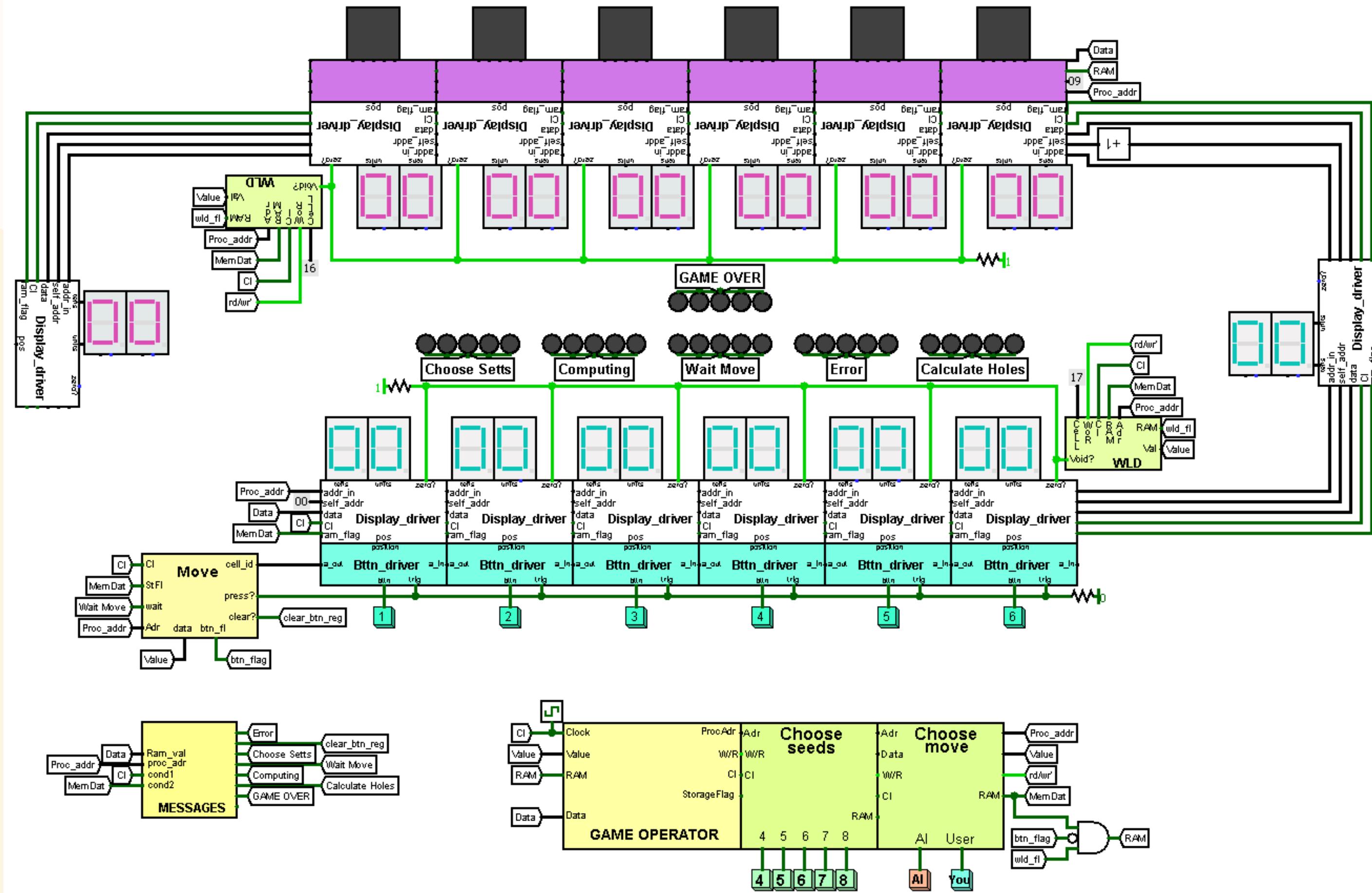


Repeat rule:

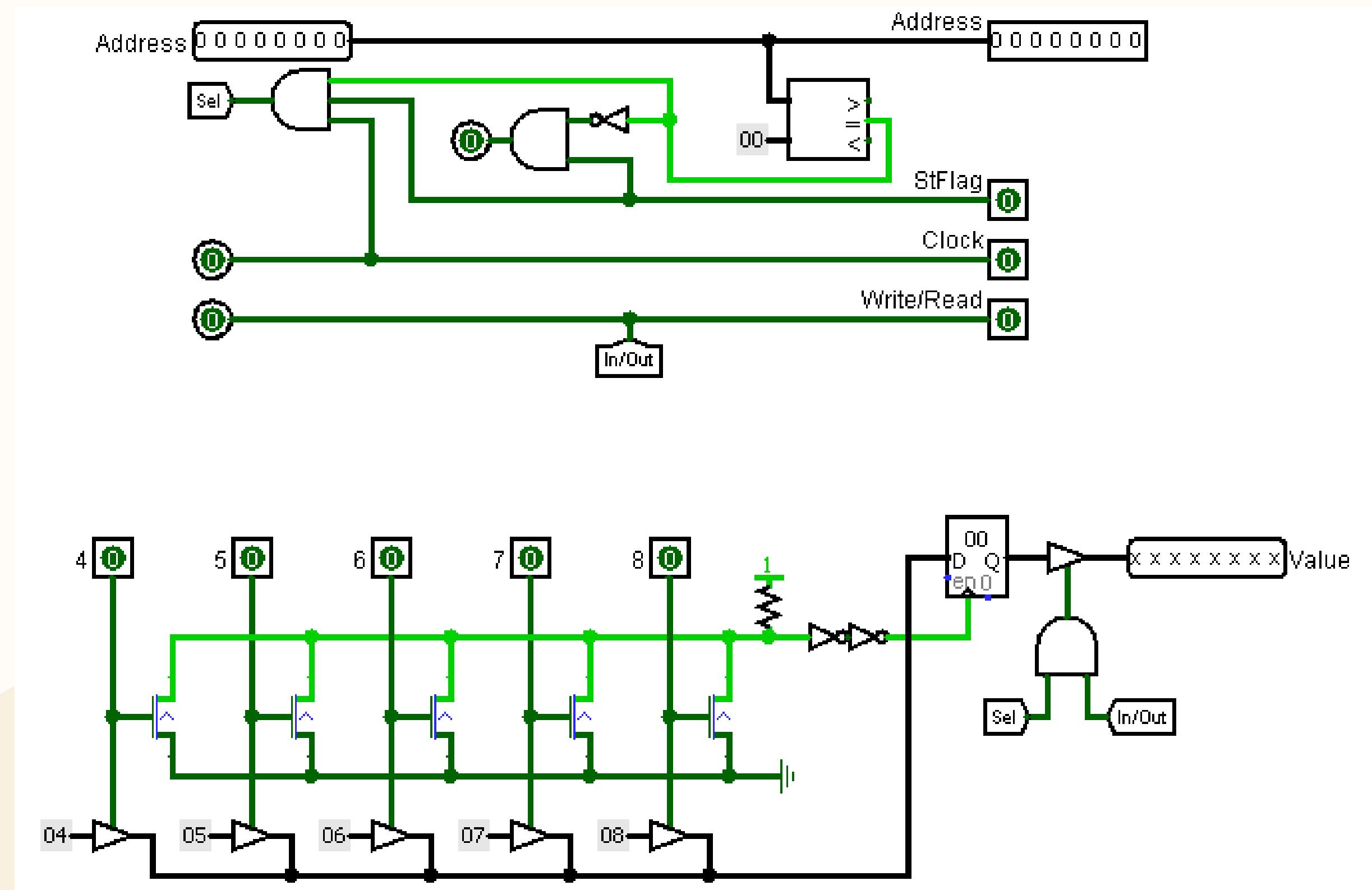
If your last seed drops into your mancala you get an extra turn



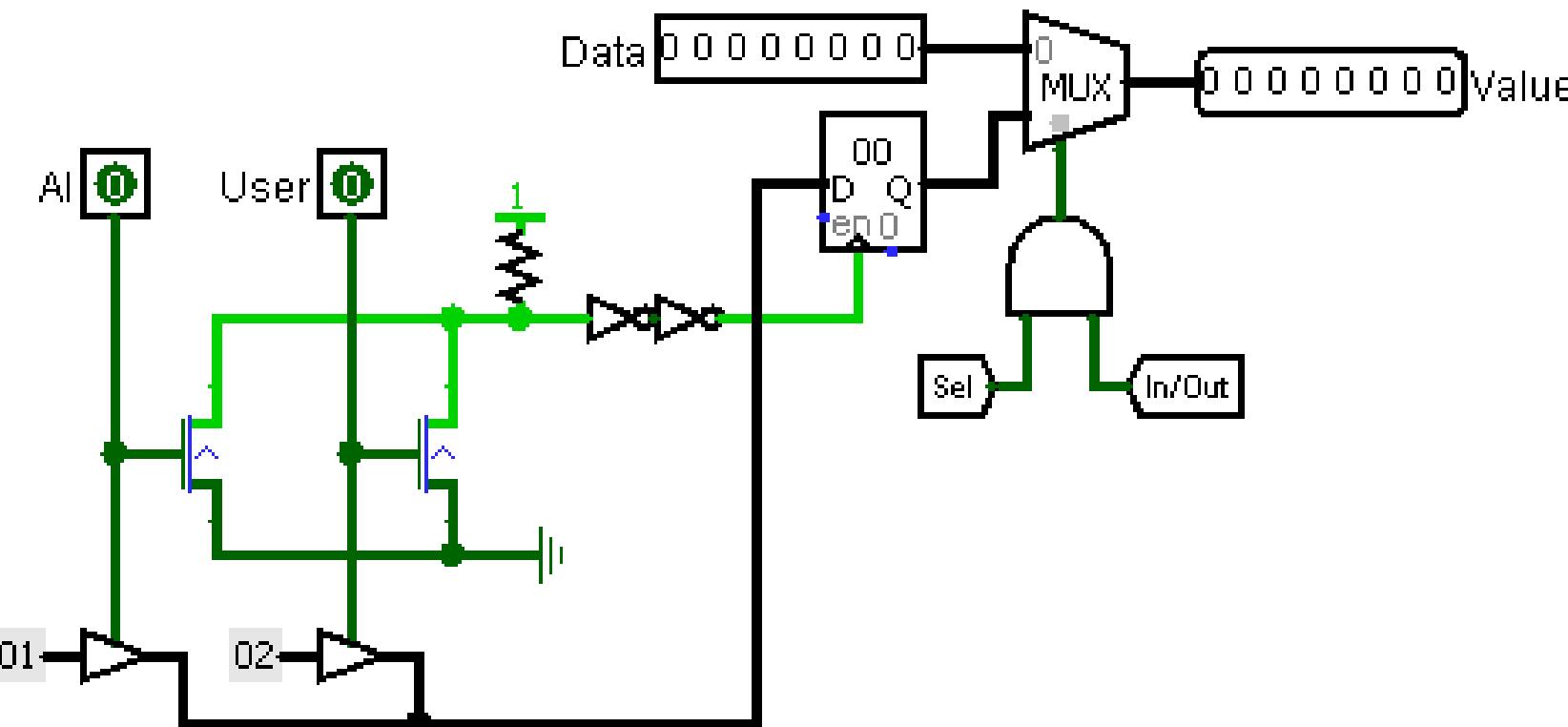
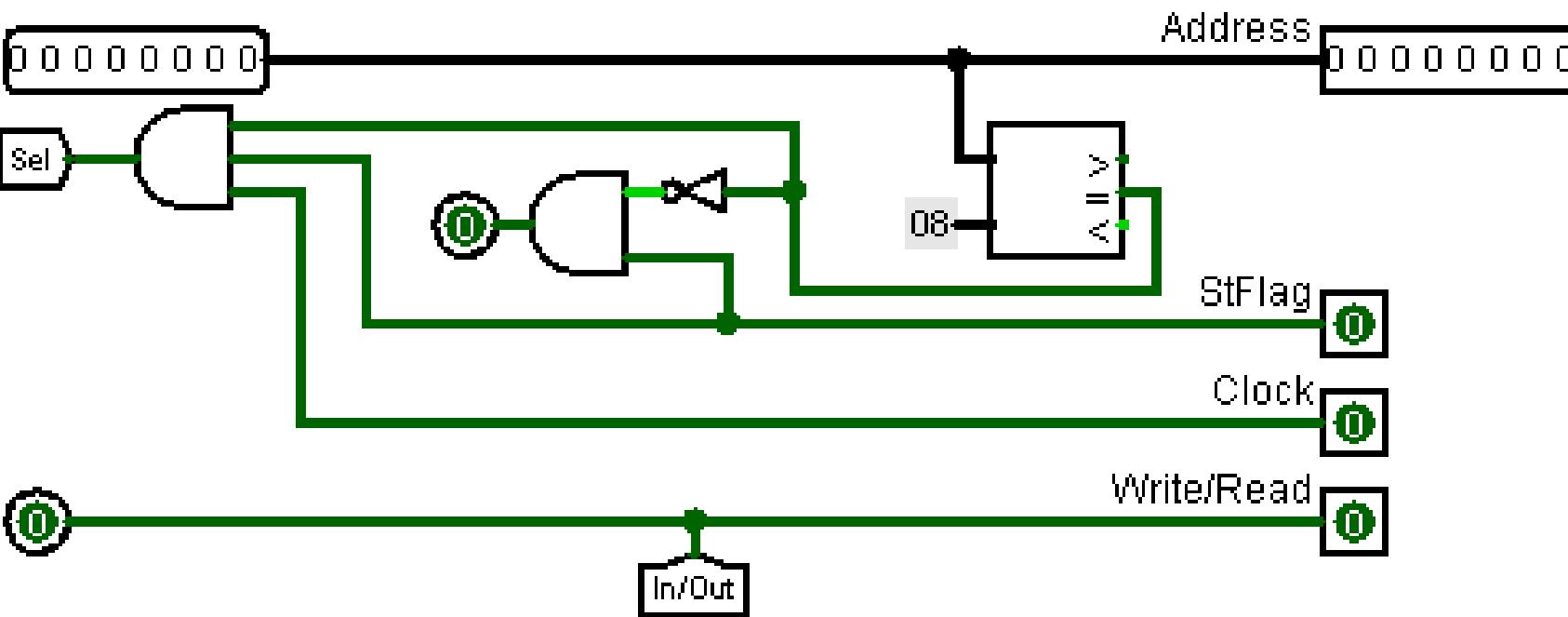
Game field



Interesting circuits: Chose seeds

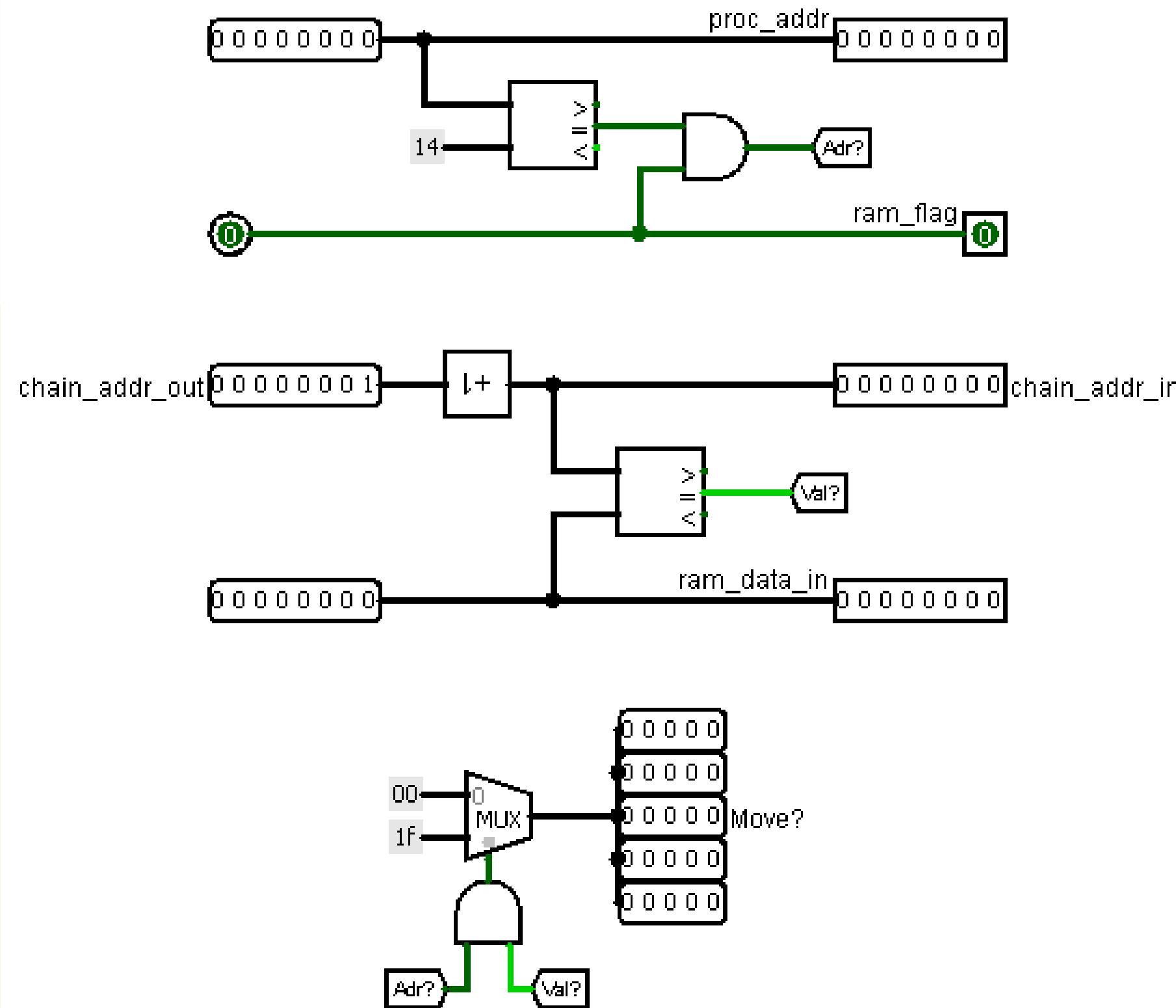


Interesting circuits: Choose move

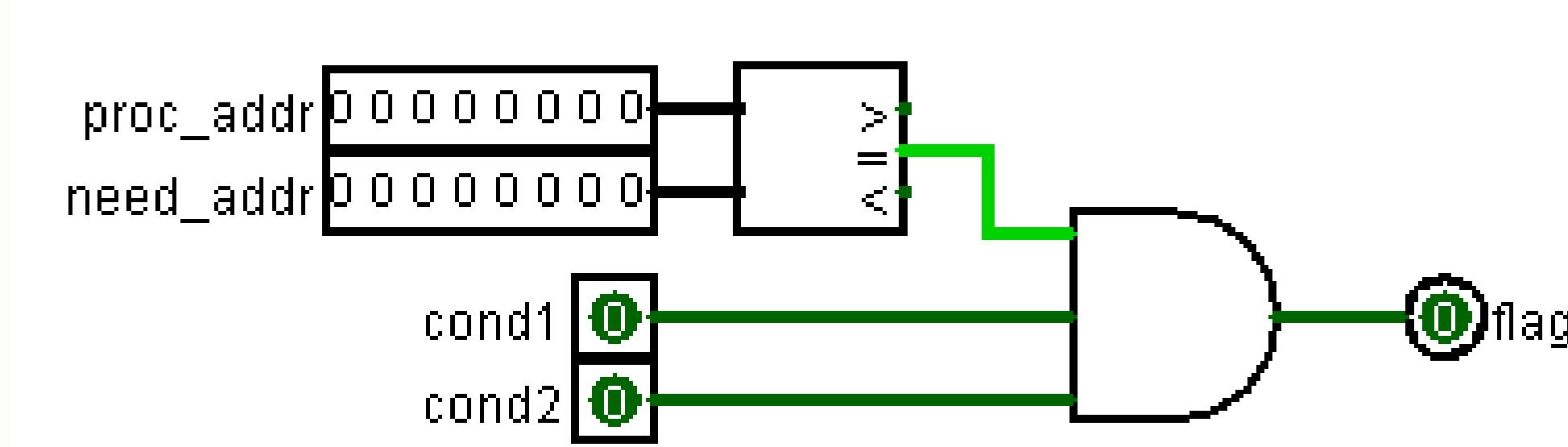


Interesting circuits:

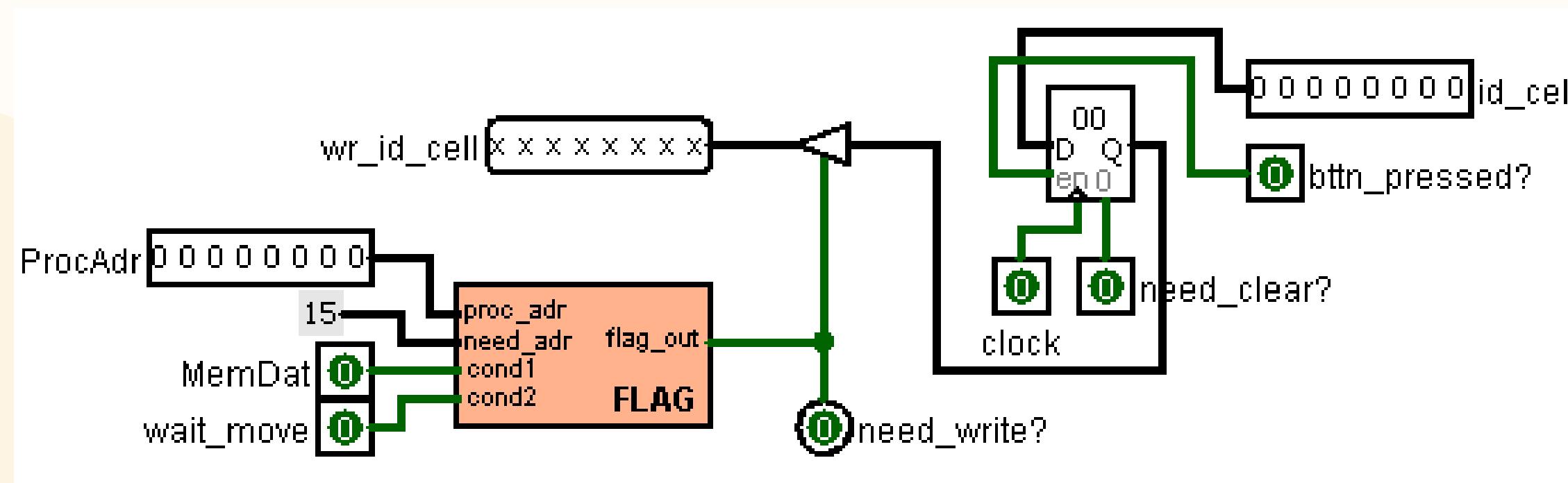
AI move



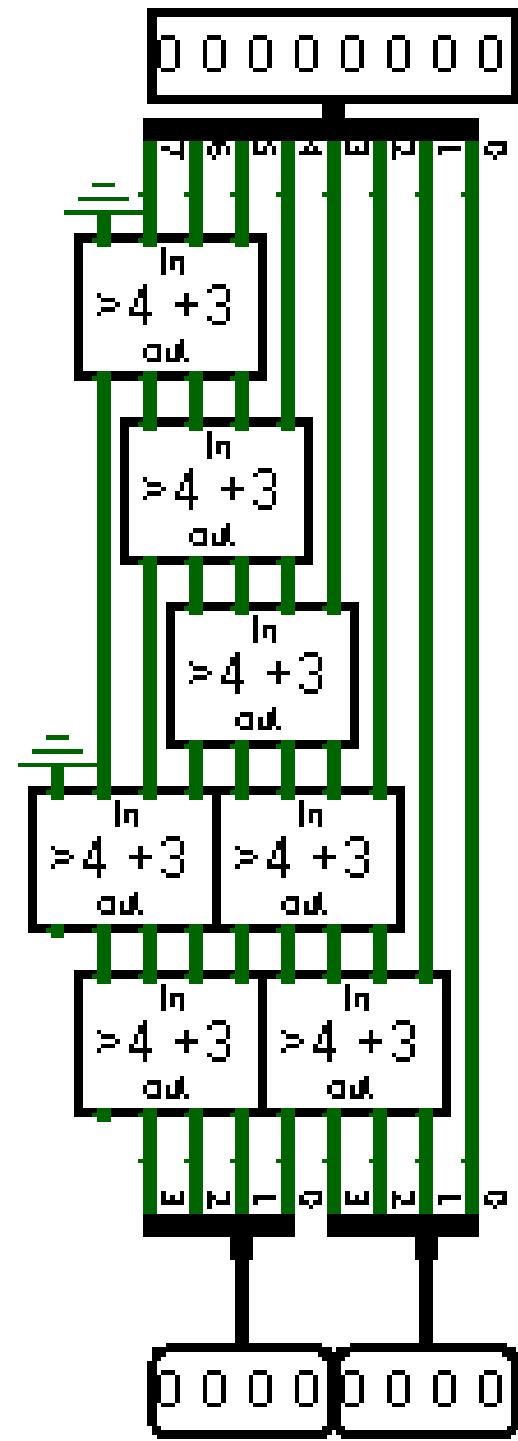
Interesting circuits: Flag base



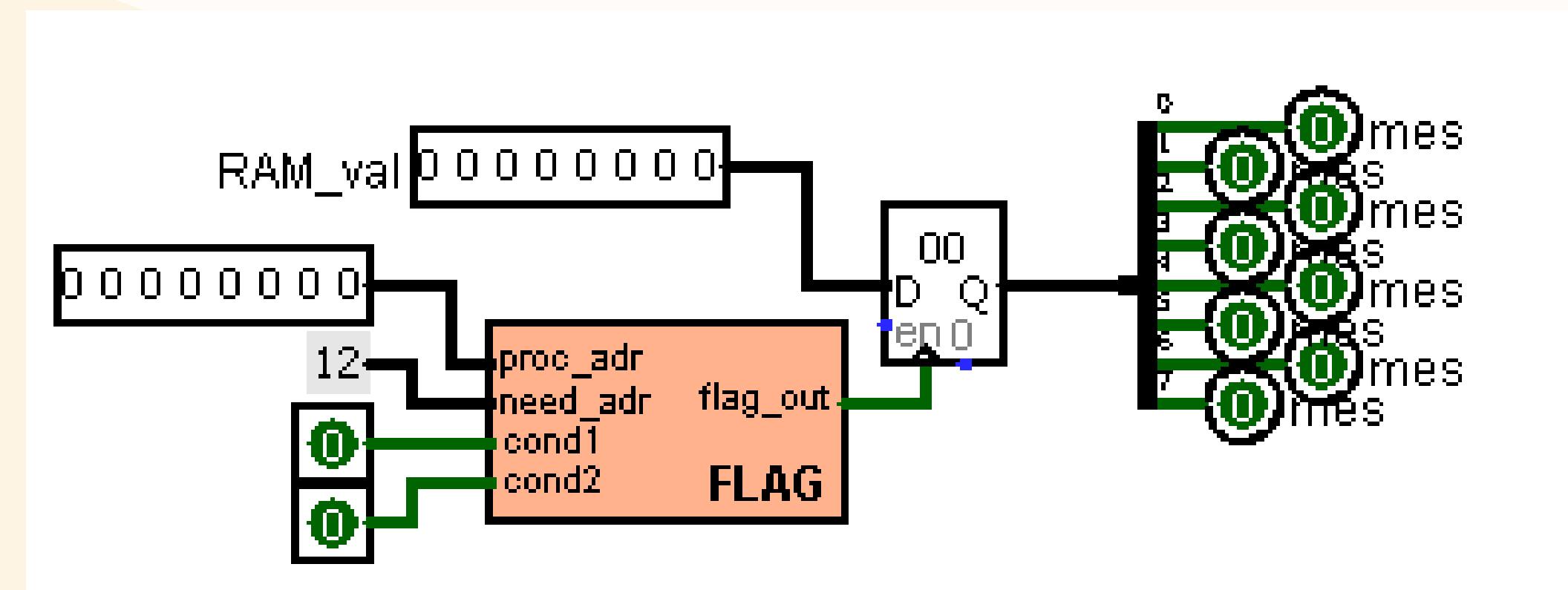
Interesting circuits: User move



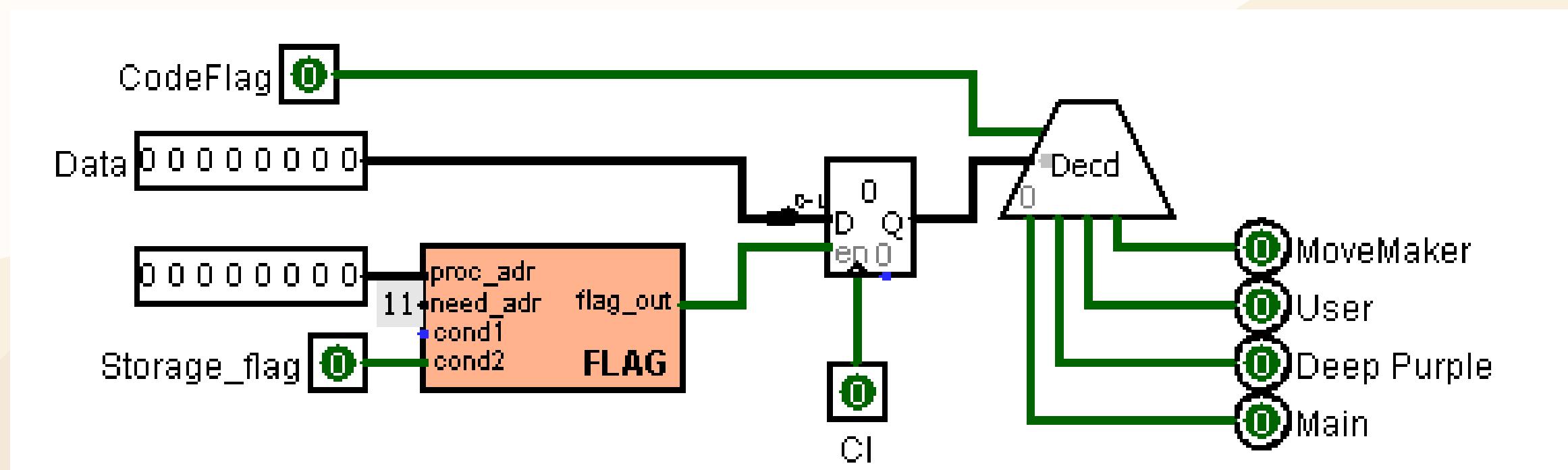
Interesting circuits: Bin to BCD



Interesting circuits: Messages

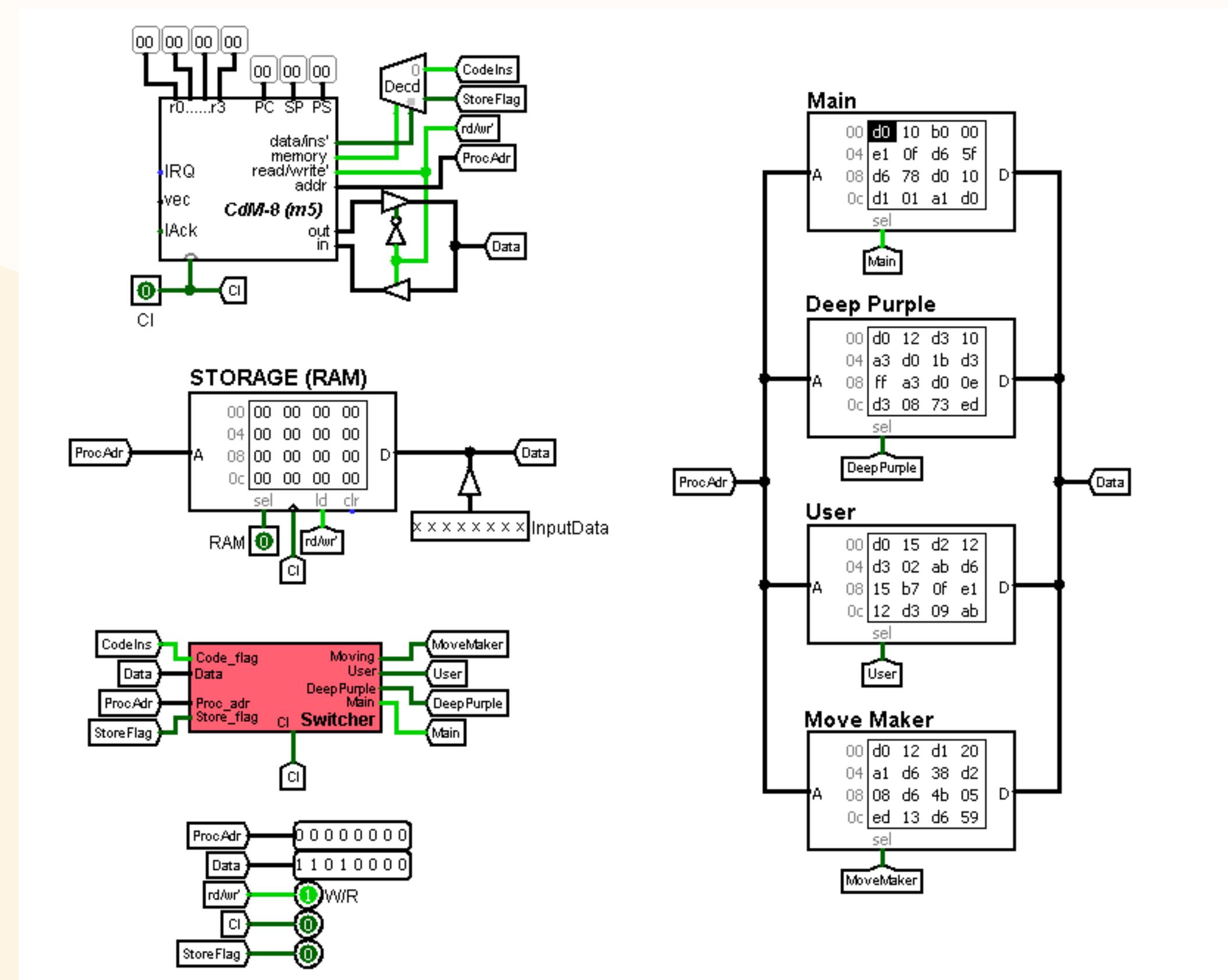


Interesting circuits: Bank switch

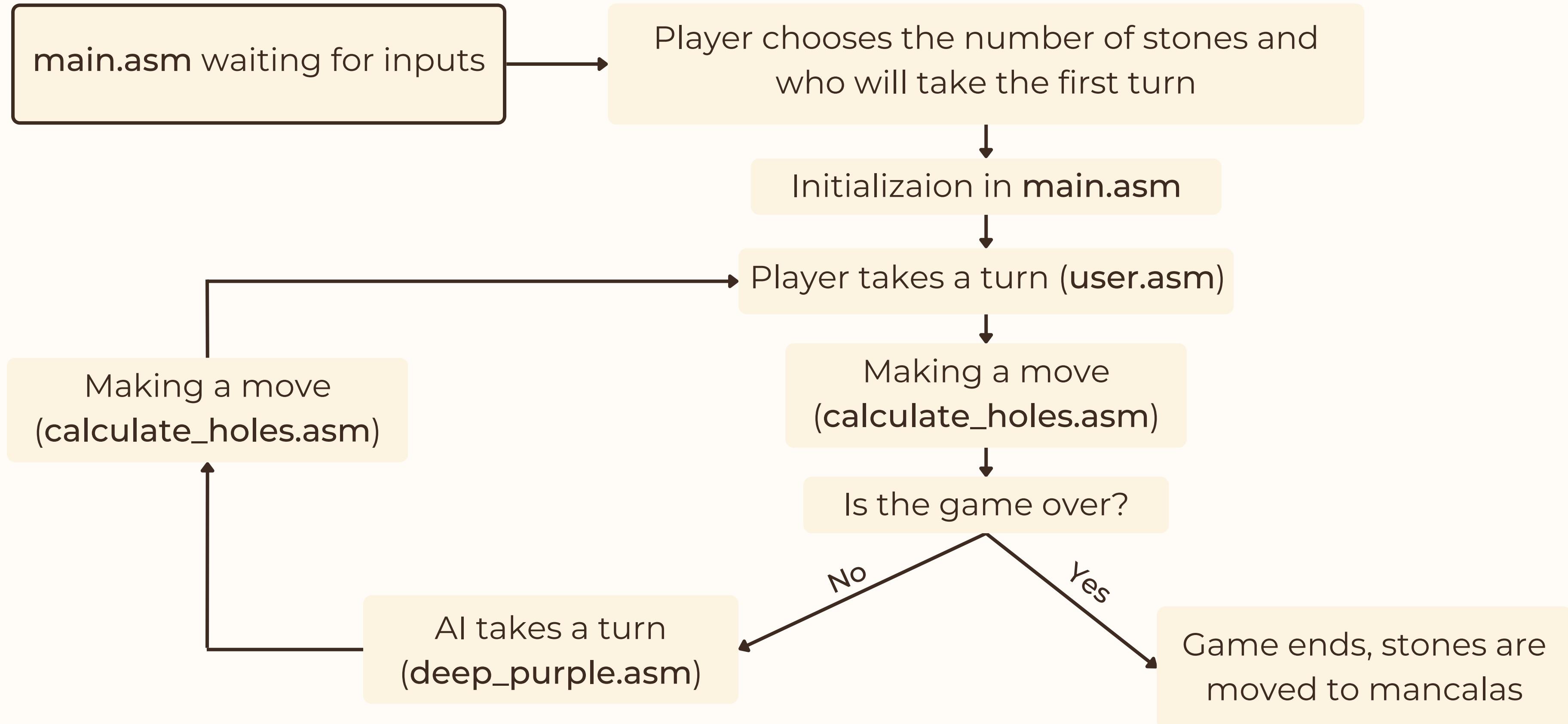


Interesting circuits:

Game operator



Gameplay scheme



Memory planning

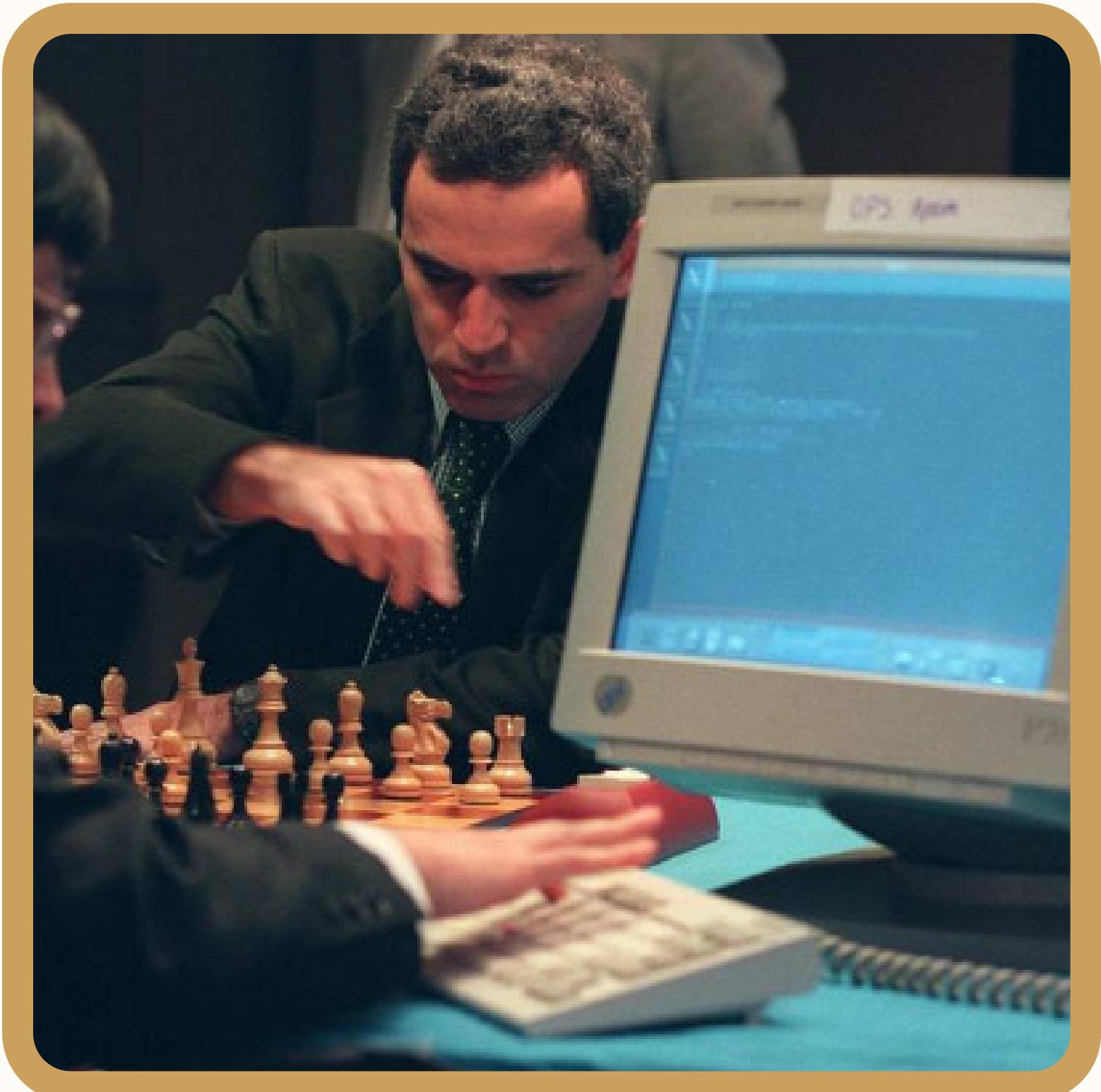
Now we present you...

Deep Purple

Our amazing AI

AI player: Deep Purple

- Greedy strategy for AI
- **The primary goal:** to maximize the number of stones in the AI's Mancala after a move
- **Two main values:**
 - The number of stones
 - Distance from the pit to the AI's Mancala



Difficulties

Problem: Limited resources

Solution: Banks of memory & optimal algorithms

Problem: Work organization

Solution: Task-manager

Review

- Artificial Intelligence: Deep Purple
- Customizable game:
 - player can choose a number of stones in each pit
 - player can choose who will take the first turn
- Unique logic schemes
- Fast and efficient game

Thank you for your attention!