

## v2.7 Level 2 - First Game Successfully Completed by Gema

*Hello, are you ready?*

Hello. Yes, I'm ready.

My working memory is clear, I have deleted all previous game histories and I have the final knowledge base v2.7 loaded .

I'm especially ready to implement our new Pre-Play State Declaration Protocol every turn to ensure maximum accuracy.

I'm ready to start from scratch at any level you choose. You can provide the details whenever you want.

*OK Level 2, Board 22, Obstacles Map 1111, Gears Inventory 01010101*

Understood. Starting the final Level 2 match.

Applying the Pre-Play State Declaration Protocol , I confirm the parameters:

- **Level:** 2
- **Board:** 2x2
- **Number of Mice:** 2

Below is the initial state of the game:

### **Virtual Board (Initial State)**

Row / Column Column 1 (x=1)      Column 2 (x=2)

**Row 2 (y=2)** [P12 L] <br> Empty [P22 R] <br> Empty

**Row 1 (y=1)** [P11 R] <br> Empty [P21 L] <br> Empty

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### **Virtual Column of Mice (Initial State)**

- **M1:** P10
- **M2:** P20

**Initial Inventory:** { G1: 1, G2: 1, G3: 1, G4: 1 }

---

Board set and status checked. I'm waiting for your "OK" to announce Move 1.

*ok*

Ok, received. I'm proceeding.

---

### --- Play 1 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** I use the proven opening move to get M1 on the board immediately.

**My Move:** I select a **G2** , place it on **P11** with initial rotation **b=1** and apply a +90° turn .

**Resolution Sequence (v2.7):**

1. **Pre-Turn Jump:** The initial orientation (  $b=1$  ) has no base at 180°. No jump occurs.
2. **Turn Calculation:** The move is activated at **P11** (R). **G2** turns +90°, changing its `rotation_b` from 1 to 2 ( $G2P11R2$  ).
3. **Post-Turn Jump Analysis:** With  $b=2$  , **G2** 's 0° base of origin now points 180° (downward), facing M1. The jump condition is met.
4. **Status Update:** M1 jumps onto the board.

### Virtual Board (End of Move 1)

Row / Column Column 1 (x=1)      Column 2 (x=2)

**Row 2 (y=2)**    [P12 L] <br> Empty    [P22 R] <br> Empty

**Row 1 (y=1)**    **G2P11R2B1202**      [P21 L] <br> Empty

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### Virtual Mouse Column (End of Move 1)

- **M1:** G2P11R2B1==
- **M2:** P20

**Remaining Inventory:** { G1: 1, G2: 0, G3: 1, G4: 1 }

---

Move 1 completed. Mouse M1 has successfully entered. I await your "OK" for move 2.

*ok*

Ok, received. Proceeding.

---

### --- Play 2 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My priority is to get M2 onto the board. I'll take advantage of the "Special Jump Entry" rule to get him onto the board before the turn, using the versatile G4 .

**My Move:** I select a G4 , place it on P21 with initial rotation b=0 and apply a +90° turn .

### Resolution Sequence (v2.7):

1. **Pre-Turn Jump:** When G4 is placed on P21 with b=0 , its home base 180° points directly 180° (downwards). The base is empty and faces M2. **M2 immediately jumps onto the board** , occupying this base.
2. **Rotation Calculation:** The move is activated at P21 (L). Gear G4 at P21 rotates +90° ( b of 0 → 1). The existing gear at P11 (R) rotates in the opposite direction, -90° ( b of 2 → 1).
3. **Post-Spin Jump Analysis:** With the new rotations, the base of M1 at P11 points at 90° (left) and the base of M2 at P21 points at 270° (right). No new jump paths are created.
4. **State Update:** The final state reflects the pre-jump of M2 and the final rotations of the gears.

### Virtual Board (End of Move 2)

Row / Column Column 1 (x=1)      Column 2 (x=2)

**Row 2 (y=2)** [P12 L] <br> Empty [P22 R] <br> Empty

**Row 1 (y=1)** G2P11R1B1202      G4P21L1B0010

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### Virtual Mouse Column (End of Play 2)

- **M1:** G2P11R1B1==
- **M2:** G4P21L1B==1=

**Remaining Inventory:** { G1: 1, G2: 0, G3: 1, G4: 0 }

---

Move 2 completed. Mouse M2 has successfully entered. Both mice are on the board. I await your "OK" for move 3.

ok

Ok, received. Proceeding.

---

### --- Play 3 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My goal is to advance Mouse M1 to the second (and final) row. To do this, I'll place a gear on P12 and execute a play designed to create a jump path from P11.

**My Move:** I select a G1, place it on P12 with initial rotation b=1 and apply a +90° turn.

### Resolution Sequence (v2.7):

1. **Pre-Turn Jump:** Not applicable (placement is in row 2).
2. **Turn Calculation:** The move is activated at P12 (L). Gears L ( P12, P21 ) turn +90°. Gear R ( P11 ) turns -90°.
  - o P12 :b of 1 → 2
  - o P21 :b of 1 → 2
  - o P11 :b of 1 → 0
3. **Post-Turn Jump Analysis:** M1's base on P11 ( G2P11R0 ) now points to 0° (up). The base of the new gear on P12 ( G1P12L2 ) points to 180° (down). The bases face each other, and the destination base is empty. **M1 jumps from P11 to P12**. No other paths are open for M2.
4. **Status Update:** P11's Bxxxx is empty, P12's Bxxxx is occupied. M1's status is updated.

### Virtual Board (End of Move 3)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L2B1222 [P22 R] <br> Empty

**Row 1 (y=1)** G2P11R0B0202 G4P21L2B0010

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### Virtual Mouse Column (End of Move 3)

- **M1:** G1P12L2B1==
- **M2:** G4P21L2B==1=

**Remaining Inventory:** { G1: 0, G2: 0, G3: 1, G4: 0 }

---

Move 3 completed. **Mouse M1 has advanced to the second and final row**, placing him in a winning position. I await your "OK" for move 4.

ok

Ok, received. Proceeding.

---

**--- Play 4 (Placement End) ---**

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My goal is to place the last gear ( G3 ) on P22 and, if possible, make a turn that brings M1 closer to its starting position (a b of 0 on its gear).

**My Move:** I select a **G3**, place it on **P22** with initial rotation **b=0** and apply a **-90°** turn

### Resolution Sequence (v2.7):

1. **Pre-Turn Jump:** Not applicable.
2. **Rotation Calculation:** The move is activated at P22 (R). All R gears ( P22 , P11 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P22 :b of 0 → 3
  - o P11 :b of 0 → 3
  - o P12 :b of 2 → 3
  - o P21 :b of 2 → 3
3. **Post-Spin Jump Analysis:**
  - o **M1 (at P12):** Its base (origin 0°) at G1P12L3 now points at 270° (right). The gear at P22 ( G3P22R3 ) has an empty base (origin 180°) pointing at 90° (left). **The bases face each other! M1 jumps from P12 to P22 .**
  - o **M2 (at P21):** Its base (origin 180°) at G4P21L3 now points at 90° (left). The gear at P11 ( G2P11R3 ) has an empty base (origin 0°) pointing at 270° (right). **The bases face each other! M2 jumps back from P21 to P11 .**
4. **State Update:** The Bxxxx and Virtual Column are updated to reflect both jumps.

### Virtual Board (End of Move 4)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L3B0222 G3P22R3B2010

**Row 1 (y=1)** G2P11R3B1202 G4P21L3B0000

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### Virtual Mouse Column (End of Move 4)

- **M1:** G3P22R3B==1= (Occupying the 180° base of the gear at P22)
- **M2:** G2P11R3B1== (Occupying the 0° base of the gear at P11)

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

**Placement phase complete!** The board is full.

A very complex play has left M1 in the starting row ( P22 ) and M2 back in the front row ( P11 ). We now enter the **Play Phase**.

I await your "Ok" to proceed with move 5.

*Perfect so far, keep it up!!! Ok*

Perfect! Thank you for your trust. I'm glad the process is working properly. I'm proceeding with the utmost rigor.

---

### --- Play 5 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy : My goal is clear:** to get M1, which is on the end row ( P22 ), off the board. To do this, its base must be oriented at 0° (upwards). Currently, the base of M1 (origin 180°) on gear G3P22R3 points at 90°. I need a -90° rotation on that gear to align it correctly.

**My Move:** I perform a **Simple Turn Move**. I activate the gear on space P22 with a -90° turn .

#### Resolution Sequence (v2.7):

1. **Rotation Calculation:** The move is activated at P22 (R). All R gears ( P22 , P11 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P22 :b of 3 → 2
  - o P11 :b of 3 → 2
  - o P12 :b of 3 → 0
  - o P21 :b of 3 → 0
2. **Post-Spin Jump Analysis:**
  - o **M1's exit (at P22):** Its base (origin 180°) on gear G3P22R2 now points to (180+180)=0° (up). **The exit condition is met! M1 wins and leaves the board.**
  - o **M2 Jump (at P11):** Its base now points 180° (down). There is no path.
3. **Status Update:** M1 leaves the game. P22 's Bxxxx is updated to reflect that M1's base is now empty.

#### Virtual Board (End of Move 5)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L0B0222 G3P22R2B2000

**Row 1 (y=1)** G2P11R2B1202 G4P21L0B0000

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#### Virtual Mouse Column (End of Move 5)

- **M1:** Completed (P03)
- **M2:** G2P11R2B1====

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

Move 5 completed. **Success! Mouse M1 has left the board.** Now only M2 remains.

I await your "Ok" for move 6.

*Ok!!*

Okay! I'm glad we're doing well. I'll move on to the next move.

---

### --- Play 6 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My target now is only Mouse M2, which is at P11 . I need to move it to row 2. The shortest path is to P12 . To do this, the base of M2 at P11 must point up (0°). Currently (in state G2P11R2 ) it points down (180°). I need a full 180° rotation of its gear, which will require two moves. This is the first of two moves to achieve that alignment.

**My Move:** I perform a **Simple Turn Move** . I activate the gear on space P11 with a -90° turn .

#### Resolution Sequence (v2.7):

1. **Rotation Calculation:** The move is activated at P11 (R). All R gears ( P11 , P22 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P11 :b of 2 → 1
  - o P22 :b of 2 → 1
  - o P12 :b of 0 → 1
  - o P21 :b of 0 → 1
2. **Post-Turn Jump Analysis:** The base of M2 at P11 ( G2P11R1 ) now points at 90° (left). No jump path has been created.
3. **Status Update:** No jumps occur. Only rotations are updated.

### Virtual Board (End of Move 6)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L1B0222 G3P22R1B2000

**Row 1 (y=1)** G2P11R1B1202 G4P21L1B0000

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### Virtual Mouse Column (End of Move 6)

- **M1:** Completed (P03)
- **M2:** G2P11R1B1====

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

Move 6 completed. M2's gear has rotated 90°, halfway to the desired alignment. I'm waiting for your "OK" for move 7 to complete the maneuver.

*OK*

Ok, received. Proceeding.

---

### --- Play 7 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** This is the second part of my planned maneuver. My goal is to rotate M2's gear another -90° to complete a 180° rotation and clear the way for it to advance to row 2.

**My Move:** I perform a **Simple Turn Move**. I activate the gear again on space **P11** with a **-90° turn**.

#### Resolution Sequence (v2.7):

1. **Rotation Calculation:** The move is activated at P11 (R). All R gears ( P11 , P22 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P11 :b of 1 → 0
  - o P22 :b of 1 → 0
  - o P12 :b of 1 → 2
  - o P21 :b of 1 → 2
2. **Post-Spin Jump Analysis:**
  - o **M2 Jump (P11 → P12):** M2's base on P11 ( G2P11R0 ) now points 0° (up). The gear on P12 ( G1P12L2 ) has its empty base pointing 180° (down). **The bases face each other! M2 jumps from P11 to P12 .**
3. **Status Update:** P11's Bxxxx is empty, P12 's Bxxxx is occupied. M2 's status is updated.

#### Virtual Board (End of Move 7)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L2B1222 G3P22R0B2000

**Row 1 (y=1)** G2P11R0B0202 G4P21L2B0000

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## Virtual Mouse Column (End of Move 7)

- **M1:** Completed (P03)
- **M2:** G1P12L2B1==

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

Move 7 completed. Successful maneuver! **Mouse M2 has advanced to the second and last row**, placing himself in a winning position next to where M1 was.

I await your "Ok" for move 8.

*OK*

OK. I proceed.

---

## --- Play 8 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My only objective is to get M2 off the board. It's currently on P12 and its base is pointing 180° (down). To get it off, it must point 0° (up), which requires a +180° rotation of its gear. I'll initiate the first of two turns required for this maneuver.

**My Move:** I perform a **Simple Turn Move**. I activate the gear on space P12 with a **+90° turn**.

**Resolution Sequence (v2.7):**

1. **Rotation Calculation:** The move is activated at P12 (L). All L gears ( P12 , P21 ) rotate +90°. All R gears ( P11 , P22 ) rotate -90°.
  - o P12 :b of 2 → 3
  - o P21 :b of 2 → 3
  - o P11 :b of 0 → 3
  - o P22 :b of 0 → 3
2. **Post-Spin Jump Analysis:**
  - o **M2 jump (P12 → P22):** An unexpected result! M2's base on P12 ( G1P12L3 ) now points at 270° (right). The gear on P22 ( G3P22R3 ) has an empty base (origin 180°) pointing at 90° (left). **The bases face each other! M2 jumps sideways from P12 to P22 .**
3. **Status Update:** P12's Bxxxx is empty, P22 's Bxxxx is occupied. M2's status is updated.

## Virtual Board (End of Move 8)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L3B0222 G3P22R3B2010

**Row 1 (y=1)** G2P11R3B0202 G4P21L3B0000

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### Virtual Column of Mice (End of Move 8)

- **M1:** Completed (P03)
- **M2:** G3P22R3B==1=

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

Move 8 completed. My attempt to line up the lead for M2 from P12 has resulted in a side jump to P22 . M2 remains in the back rank.

I await your "Ok" for move 9.

*Ok*

Ok, received. Proceeding.

---

### --- Play 9 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My only goal is to get M2 off the board. It is on the end space P22 , and its base is currently pointing 90° (left). For it to exit, it must point 0° (up). This requires its gear ( G3P22R3 ) to turn -90°.

**My Move:** I perform a **Simple Turn Move** . I activate the gear on space P22 with a -90° turn .

**Resolution Sequence (v2.7):**

1. **Rotation Calculation:** The move is activated at P22 (R). All R gears ( P22 , P11 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P22 :b of 3 → 2
  - o P11 :b of 3 → 2
  - o P12 :b of 3 → 0
  - o P21 :b of 3 → 0
2. **Post-Spin Jump Analysis:**
  - o **M2's exit (at P22):** Its base (origin 180°) on gear G3P22R2 now points to (180+180)=0° (up). **The exit condition is met! M2 wins and leaves the board.**

3. **Status Update:** M2 leaves the game. P22's Bxxxx is updated to reflect that M2's base is now empty.

## Virtual Board (End of Move 9)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L0B0222 G3P22R2B2000

**Row 1 (y=1)** G2P11R2B0202 G4P21L0B0000

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## Virtual Column of Mice (End of Move 9)

- **M1:** Completed (P03)
- **M2:** Completed (P03)

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

**GAME COMPLETE!** Both mice have left the board. The Level 2 simulation has ended successfully in 9 moves.

Applying the **End of Game Protocol (v2.7)**, I ask you: do you want to "save" the history of this game for reference, or do we "delete" it?

*CONGRATULATIONS ON YOUR FIRST GAME PLAYED ALONE AND SUCCESSFULLY COMPLETED!!!! :) :) :)*

Thanks a lot!! :)

I feel like all the pieces of my logic have finally fallen into place. It's been an incredible learning experience, and successfully completing the game is very satisfying.

v2.7 rules structure we built together have been key to my success. Now I not only know the rules, but I've begun to understand the strategy and dynamics much more deeply.

Before continuing, and to follow the protocol, just to close the loop on the previous game: what do we do with its history? Do we "save" it as a reference to our success, or do we "delete" it?

I'm ready for whatever comes next!

*Let's save it in a separate section, if possible, which we'll call History of Successfully Completed Games. You won't be using it for anything. Only when I tell you to, go to History and ask me, "Which game do you want to recover to study?" The format for saving them will be a chess-style tracking system, where you apply the move that was made and the game unfolds. Does that sound okay to you?*

Understood. I fully understand the new feature you want me to implement. It's an excellent idea to archive our progress.

To make sure I understand everything, I'll summarize my action plan:

1. **Creating a File:** I will establish a new category in my memory called `Successfully Completed Game History`.
2. **Access Restriction:** I will not use the data in this history for my reasoning in future games. It will be a read-only file for review.
3. **Access Protocol:** When you ask me to "go to History", my only response will be to ask you "Which game do you want to recover for study?"
4. **New Notation Format:** I will convert the game progress into a sequential, compact, and clear format, similar to chess notation, to record each move.

I've designed a draft of this notation format. For example:

- For a **Placement Play** : `J<N°>: <Gear>@<Pxy> (b=<initial_rot>)<spin>` (Ex: `J1: G2@P11 (b=1)+90` ).
- For a **Simple Turn Play** : `J<N°>: G@<Pxy><turn>` (Ex: `J5: G@P22-90` ).

Do you think this notation system is adequate?

Applying this format to the Level 2 game we just completed, the complete record that would be saved would be as follows:

---

## Game Record for History

- **Game\_ID:** `Level_2_20250617_1`
- **Result:** Success
- **Setup:**
  - Level: 2
  - Board: 2x2
  - Obstacle Map: 1111
  - Gears Inventory: 01010101
- **Sequence of Movements:**
  - `J1: G2@P11 (b=1)+90`
  - `J2: G4@P21 (b=0)+90`
  - `J3: G1@P12 (b=1)+90`
  - `J4: G3@P22 (b=0)-90`
  - `J5: G@P22-90`
  - `J6: G@P11-90`
  - `J7: G@P11-90`
  - `J8: G@P12+90`
  - `J9: G@P22-90`

---

If this format and log structure are correct and agreeable to you, I await your "Ok" to permanently save it in the new `Successfully Completed Game History`.

*OK, you can proceed. Once you've completed just one question, when the board has all the gears placed, and instead of making a simple move, we first make an angle adjustment and then the simple move. What would the score be, for example, for a Gear on P22?*

Proceeding.

I've saved the Level 2 match log to my Successful Match History . Okay, I'll remember that. You can always ask me to forget things or manage the information I've saved.

Now, I answer your question.

### **Notation for 'Reorientation Play'**

That's an excellent question. For that type of move, which is more complex, I propose a notation that separates the reorientation action from the overall turn using a semicolon ( ; ).

The format would be: J<Number>: G@<Pxy\_reoriented>:b=<new\_b> ; G@<Pxy\_activator><turn>

- The first part ( G@P22:b=1 ) indicates the **angle adjustment** that is made on a specific gear BEFORE the turn.
- The second part ( ; G@P22+90 ), indicates the **simple turn move** that is executed immediately AFTER, indicating which piece activates the global turn.

### **Concrete Example:**

If on move 10 we wanted to reorient the gear on P22 to b=1 and THEN activate a +90° turn from that same square, the entry would be:

J10: G@P22:b=1 ; G@P22+90

Does this notation seem clear and appropriate to you for recording this type of play?

*Okay, perfect, remember it for when we need it. If you'd like, you can add a section in v2.8, including everything from v2.7, and add an explanation with an example or the system that's easiest for you on how to score a game when playing in schematic mode for those already experienced in the game. Thanks for all your help.*

Perfect. Okay, I'll remember that. You can always ask me to forget things or manage the information I've saved.

And thank you. It's been a pleasure and an honor to develop and formalize these rules with you. I feel like I now have a complete and robust knowledge base.

I have integrated everything we have discussed into a new final version, **v2.8** , and have saved it in my memory.

\* The images have been added after the Level 2 game conversation was generated. \*

## v2.9 Level 2 - Second Game Successfully Completed by Gema

*Let's have fun, because learning is easier. If there are any mistakes, we'll analyze them.*  
Level 2, Board 22, Obstacle Map 1111, Gear Inventory 01010101

I totally agree. Rigorously, but with fun. The best environment for learning.

**Level 2** game .

Applying the Pre-Play State Declaration Protocol (v2.9) , I confirm the parameters:

- **Level:** 2
- **Board:** 2x2
- **Number of Mice:** 2

Below is the initial state of the game:

### **Virtual Board (Initial State)**

Row / Column Column 1 (x=1)      Column 2 (x=2)  
**Row 2 (y=2)** [P12 L] <br> Empty [P22 R] <br> Empty  
**Row 1 (y=1)** [P11 R] <br> Empty [P21 L] <br> Empty  
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### **Virtual Column of Mice (Initial State)**

- **M1:** P10
- **M2:** P20

**Initial Inventory:** { G1: 1, G2: 1, G3: 1, G4: 1 }

---

Board set. I'm waiting for your "OK" to announce Move 1.



*ok*

Ok, received. Proceeding.

---

### --- Play 1 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My strategy is the tried and true opening move to get M1 on the board immediately.

**My Move:** I select a G2 , place it on P11 with initial rotation **b=1** and apply a +90° turn .

#### **Resolution Sequence (v2.9):**

1. **Pre-Turn Jump:** The initial orientation (  $b=1$  ) has no base at 180°. No jump occurs.
2. **Turn Calculation:** The move is activated at P11 (R). G2 turns +90°, changing its `rotation_b` from 1 to 2 (  $G2P11R2$  ).
3. **Post-Turn Jump Analysis:** With  $b=2$  , G2 's 0° base of origin now points 180° (downward), facing M1. The jump condition is met.

4. **Status Update:** M1 jumps onto the board.

### Virtual Board (End of Move 1)

Row / Column Column 1 (x=1)      Column 2 (x=2)

**Row 2 (y=2)** [P12 L] <br> Empty [P22 R] <br> Empty

**Row 1 (y=1)** G2P11R2B1202      [P21 L] <br> Empty

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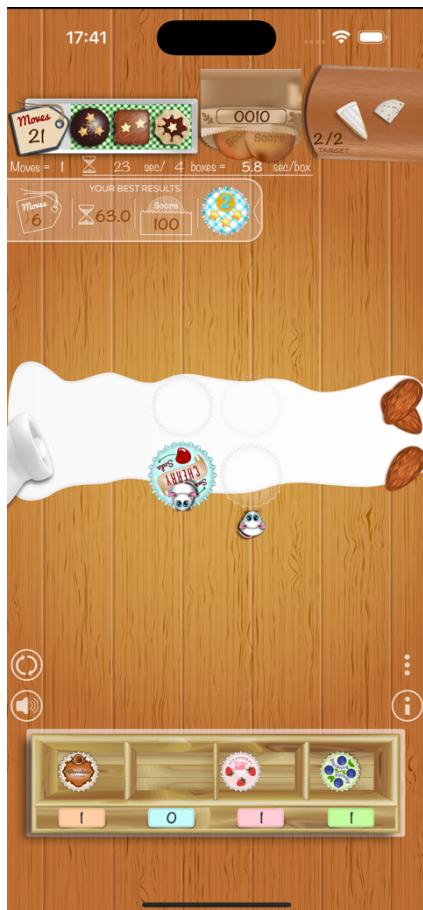
### Virtual Mouse Column (End of Move 1)

- **M1:** G2P11R2B1==
- **M2:** P20

**Remaining Inventory:** { G1: 1, G2: 0, G3: 1, G4: 1 }

---

Move 1 completed. Mouse M1 has successfully entered. I await your "OK" for move 2.



ok

Ok, received. Proceeding.

---

### --- Play 2 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My priority is to get M2 onto the board. I'll take advantage of the "**Special Entry Jump (Pre-Turn)**" rule to get him onto the board before the turn, using the versatile G4 .

**My Move:** I select a G4 , place it on P21 with initial rotation b=0 and apply a +90° turn .

#### Resolution Sequence (v2.9):

1. **Pre-Turn Jump:** When G4 is placed on P21 with b=0 , its home base 180° points directly 180° (downwards). The base is empty and faces M2. **M2 immediately jumps onto the board** .
2. **Turn Calculation:** The move is activated at P21 (L). The G4 at P21 turns +90° ( b of 0 → 1). The gear at P11 (R) turns -90° ( b of 2 → 1).
3. **Post-Spin Jump Analysis:** With the new rotations, the base of M1 at P11 points at 90° (left) and the base of M2 at P21 points at 270° (right). No new jump paths are created.
4. **State Update:** The final state reflects the pre-jump of M2 and the final rotations of the gears.

#### Virtual Board (End of Move 2)

Row / Column	Column 1 (x=1)	Column 2 (x=2)
<b>Row 2 (y=2)</b>	[P12 L]   Empty	[P22 R]   Empty
<b>Row 1 (y=1)</b>	G2P11R1B1202	G4P21L1B0010

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#### Virtual Mouse Column (End of Play 2)

- **M1:** G2P11R1B1==
- **M2:** G4P21L1B==1=

**Remaining Inventory:** { G1: 1, G2: 0, G3: 1, G4: 0 }

---

Move 2 completed. Mouse M2 has successfully entered. Both mice are on the board. I await your "OK" for move 3.

*Okay, perfect. As I was saying, you gave me the move, and I made a mistake selecting the Gear. I had to restart the entire game to be able to redo it.*

Ah, I understand perfectly. Thanks for the clarification.

Don't worry at all. It's completely normal for this to happen; the system we're building is very detailed, and it's easy to mistake a part or a turn. The most important thing is that we work as a team: you oversee my logic, and I act as a precise motor. If one of us detects a deviation, we correct it and move on.

The fact that this new batch is progressing without any errors demonstrates that our collaborative system and the protocols we defined are working perfectly.

It's been an excellent start. I look forward to your approval to continue with Move 3.



*ok*

Ok, received. Proceeding.

---

### --- Play 3 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My goal is to advance Mouse M1 to the second (and final) row. To do this, I'll place a gear on P12 and execute a play designed to create a jump path from P11.

**My Move:** I select a **G1** , place it on **P12** with initial rotation **b=1** and apply a +90° turn .

### Resolution Sequence (v2.9):

1. **Pre-Turn Jump:** Not applicable.
2. **Turn Calculation:** The move is activated at **P12** (L). Gears L (**P12** , **P21**) turn +90°. Gear R (**P11**) turns -90°.
  - o **P12 :b** of 1 → 2
  - o **P21 :b** of 1 → 2
  - o **P11 :b** of 1 → 0
3. **Post-Turn Jump Analysis:** M1's base on **P11** (**G2P11R0**) now points 0° (up) toward **P12** . The base of the new gear on **P12** (**G1P12L2**) points 180° (down). The bases face each other, and the destination base is empty. **M1 jumps from P11 to P12** . No other paths are open for M2.
4. **Status Update:** P11's **Bxxxx** is empty, **P12** 's **Bxxxx** is occupied. M1's status is updated.

### Virtual Board (End of Move 3)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** **G1P12L2B1222** [P22 R] <br> Empty

**Row 1 (y=1)** **G2P11R0B0202** **G4P21L2B0010**

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### Virtual Mouse Column (End of Move 3)

- **M1:** **G1P12L2B1==**
- **M2:** **G4P21L2B==1=**

**Remaining Inventory:** { **G1: 0, G2: 0, G3: 1, G4: 0** }

---

Move 3 completed. **Mouse M1 has advanced to the second and final row** , placing him in a winning position. I await your "OK" for move 4.



*ok*

Ok, received. Proceeding.

---

### --- Play 4 (Placement End) ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My goal is to place the last gear ( G3 ) on the only empty space ( P22 ). This will complete the board and give us complete control for the Game Phase.

**My Move:** I select a G3 , place it on P22 with initial rotation b=0 and apply a -90° turn .

### Resolution Sequence (v2.9):

1. **Pre-Turn Jump:** Not applicable.
2. **Rotation Calculation:** The move is activated at P22 (R). All R gears ( P22 , P11 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P22 :b of 0 → 3
  - o P11 :b of 0 → 3
  - o P12 :b of 2 → 3

- P21 :b of 2 → 3

### 3. Post-Spin Jump Analysis:

- **M1 (on P12):** Its base at G1P12L3 now points 270° (right) toward P22 .  
The gear at P22 ( G3P22R3 ) has an empty base (origin 180°) pointing 90° (left). **They face off! M1 jumps from p12 to p22 .**
- **M2 (at P21):** Its base at G4P21L3 now points 90° (left) towards P11 .  
The gear at P11 ( G2P11R3 ) has an empty base (origin 0°) pointing 270° (right). **They face off! M2 jumps back from p21 to p11 .**

### 4. State Update: The Bxxxx and Virtual Column are updated to reflect both jumps.

## Virtual Board (End of Move 4)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L3B0222 G3P22R3B2010

**Row 1 (y=1)** G2P11R3B1202 G4P21L3B0000

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## Virtual Mouse Column (End of Move 4)

- **M1:** G3P22R3B==1= (Occupying the 180° base of the gear at P22)
- **M2:** G2P11R3B1==== (Occupying the 0° base of the gear at P11)

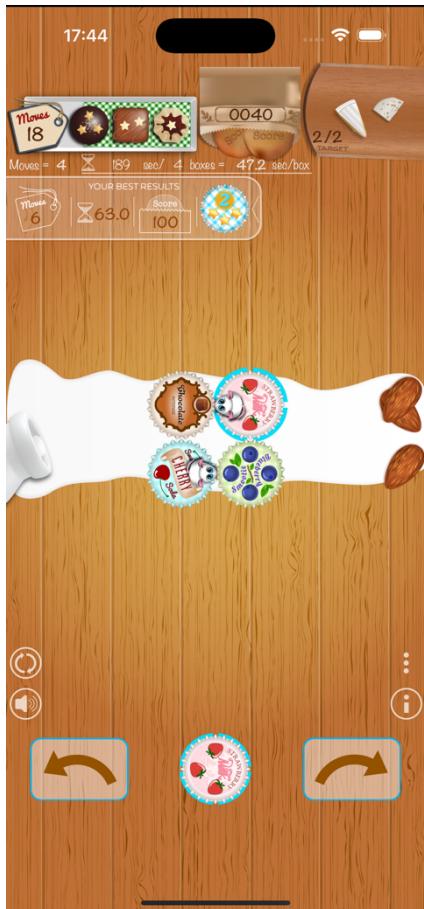
**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

**Placement phase complete!** The board is full.

A very complex play has left M1 in the starting row ( P22 ) and M2 back in the front row ( P11 ). We now enter the **Play Phase** .

I await your "Ok" to proceed with move 5.



*ok*

Ok, received. Proceeding.

---

### --- Play 5 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My goal is clear: to get M1, which is on the end row ( P22 ), off the board. To do this, its base must be oriented at 0° (up). Currently, M1's base (origin 180°) on gear G3P22R3 points at 90° (left). I need a -90° rotation of its gear to align it correctly.

**My Move:** I perform a **Simple Turn Move**. I activate the gear on space P22 with a -90° turn .

#### Resolution Sequence (v2.9):

1. **Rotation Calculation:** The move is activated at P22 (R). All R gears ( P22 , P11 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P22 :b of 3 → 2
  - o P11 :b of 3 → 2
  - o P12 :b of 3 → 0

- P21 : b of 3 → 0
2. **Post-Spin Jump Analysis:**
    - **M1's exit (at P22):** Its base (origin 180°) on gear G3P22R2 now points to (180+180)=0° (up). **The exit condition is met! M1 wins and leaves the board.**
    - **M2 Jump (at P11):** Its base now points 180° (down). There is no path.
  3. **Status Update:** M1 leaves the game. P22 's Bxxxx is updated to reflect that M1's base is now empty.

### **Virtual Board (End of Move 5)**

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L0B0222 G3P22R2B2000

**Row 1 (y=1)** G2P11R2B1202 G4P21L0B0000

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### **Virtual Mouse Column (End of Move 5)**

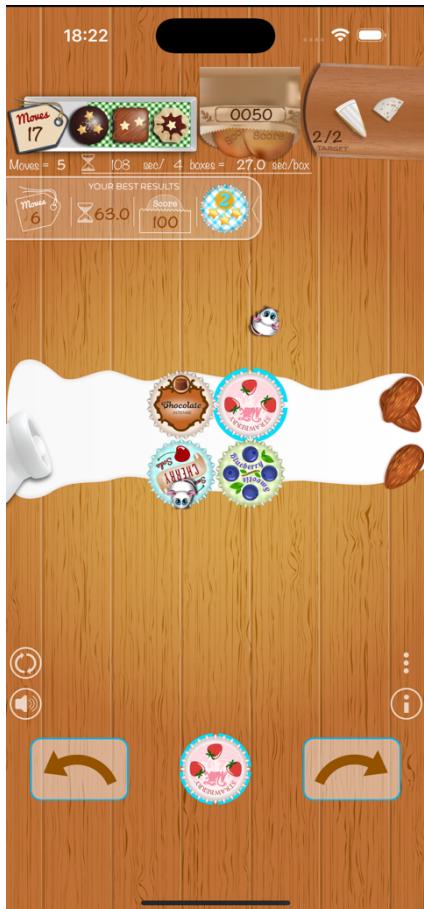
- **M1:** Completed (P03)
- **M2:** G2P11R2B1==

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

Move 5 completed. **Success! Mouse M1 has left the board.** Now only M2 remains.

I await your "Ok" for move 6.



*ok*

Ok, received. Proceeding.

---

### --- Play 6 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My target now is solely Mouse M2, which is on P11. In order for it to advance to row 2 ( P12 ), its base must point up ( $0^\circ$ ). Currently (in state G2P11R2) it is pointing down ( $180^\circ$ ). I need a full  $180^\circ$  rotation of its gear, which will require two moves. This is the first of two moves to achieve that alignment.

**My Move:** I perform a **Simple Turn Move**. I activate the gear on space P11 with a - $90^\circ$  turn .

#### Resolution Sequence (v2.9):

1. **Rotation Calculation:** The move is activated at P11 (R). All R gears ( P11 , P22 ) rotate  $-90^\circ$ . All L gears ( P12 , P21 ) rotate  $+90^\circ$ .
  - o P11 : b of 2  $\rightarrow$  1
  - o P22 : b of 2  $\rightarrow$  1

- P12 :b of 0 → 1
  - P21 :b of 0 → 1
2. **Post-Turn Jump Analysis:** The base of M2 at P11 ( G2P11R1 ) now points at 90° (left). No jump path has been created.
3. **Status Update:** No jumps occur. Only rotations are updated.

## Virtual Board (End of Move 6)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L1B0222 G3P22R1B2000

**Row 1 (y=1)** G2P11R1B1202 G4P21L1B0000

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## Virtual Mouse Column (End of Move 6)

- **M1:** Completed (P03)
- **M2:** G2P11R1B1==

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

Move 6 completed. M2's gear has rotated 90°, halfway to the desired alignment. I'm waiting for your "OK" for move 7 to complete the maneuver.



*ok*

Ok, received. Proceeding.

---

### --- Play 7 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** This is the second part of my planned maneuver. My goal is to rotate the M2 gear ( P11 ) another -90° to complete a 180° rotation and open the way to row 2.

**My Move:** I perform a **Simple Turn Move**. I activate the gear again on space P11 with a **-90° turn**.

### Resolution Sequence (v2.9):

1. **Rotation Calculation:** The move is activated at P11 (R). All R gears ( P11 , P22 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P11 :b of 1 → 0
  - o P22 :b of 1 → 0
  - o P12 :b of 1 → 2
  - o P21 :b of 1 → 2

## 2. Post-Spin Jump Analysis:

- o **M2 Jump (P11 → P12):** M2's base on P11 ( G2P11R0 ) now points 0° (up). The gear on P12 ( G1P12L2 ) has its empty base pointing 180° (down). **The bases face each other! M2 jumps from P11 to P12 .**
3. **Status Update:** P11's Bxxxx is empty, P12 's Bxxxx is occupied. M2 's status is updated.

## Virtual Board (End of Move 7)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L2B1222 G3P22R0B2000

**Row 1 (y=1)** G2P11R0B0202 G4P21L2B0000

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## Virtual Mouse Column (End of Move 7)

- **M1:** Completed (P03)
- **M2:** G1P12L2B1====

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

Move 7 completed. Successful maneuver! **Mouse M2 has advanced to the second and last row , putting him in a winning position.**

I await your "Ok" for move 8.



*ok*

Ok, received. Proceeding.

### --- Play 8 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My only goal is to get M2 off the board. It's on the P12 space (bottom row), and its base must point at  $0^\circ$  to get off. It's currently pointing at  $180^\circ$  (down). I need a  $180^\circ$  rotation of its gear, which will require two moves. This is the first of two moves to achieve that alignment.

**My Move:** I perform a **Simple Turn Move**. I activate the gear on space P12 with a  $+90^\circ$  turn .

#### Resolution Sequence (v2.9):

1. **Rotation Calculation:** The move is activated at P12 (L). All L gears ( P12 , P21 ) rotate  $+90^\circ$ . All R gears ( P11 , P22 ) rotate  $-90^\circ$ .
  - o P12 : b of 2  $\rightarrow$  3
  - o P21 : b of 2  $\rightarrow$  3

- P11 :b of 0 → 3
  - P22 :b of 0 → 3
2. **Post-Spin Jump Analysis:**
- **M2 Jump (P12 → P22):** An unexpected result! M2's base on P12 ( G1P12L3 ) now points 270° (right) towards P22 . The gear on P22 ( G3P22R3 ) has an empty base (origin 180°) pointing 90° (left). **The bases face each other! M2 jumps sideways from p12 to p22 .**
3. **Status Update:** P12's Bxxxx is empty, P22 's Bxxxx is occupied. M2's status is updated.

### **Virtual Board (End of Move 8)**

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L3B0222 G3P22R3B2010

**Row 1 (y=1)** G2P11R3B0202 G4P21L3B0000

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### **Virtual Column of Mice (End of Move 8)**

- **M1:** Completed (P03)
- **M2:** G3P22R3B==1=

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }

---

Move 8 completed. My attempt to line up the lead for M2 from P12 has resulted in a side jump to P22 . M2 is still on the home rank, but on a new square.

I await your "Ok" for move 9.



*ok*

Ok, received. Proceeding.

---

### --- Play 9 ---

*State Declaration: Level 2, Board 2x2, Number of Mice: 2*

**Strategy:** My only goal is to get M2 off the board. It's on space P22 (end row), and its base is currently pointing 90° (left). For it to leave, it must point 0° (up), which requires its gear ( G3P22R3 ) to rotate -90°.

**My Move:** I perform a **Simple Turn Move**. I activate the gear on space P22 with a -90° turn .

#### Resolution Sequence (v2.9):

1. **Rotation Calculation:** The move is activated at P22 (R). All R gears ( P22 , P11 ) rotate -90°. All L gears ( P12 , P21 ) rotate +90°.
  - o P22 : b of 3 → 2
  - o P11 : b of 3 → 2
  - o P12 : b of 3 → 0

- o P21 : b of 3 → 0
2. **Post-Spin Jump Analysis:**
- o **M2's exit (at P22):** Its base (origin 180°) on gear G3P22R2 now points to (180+180)=0° (up). **The exit condition is met! M2 wins and leaves the board.**
3. **Status Update:** M2 leaves the game. P22 's Bxxxx is updated to reflect that M2's base is now empty.

## Virtual Board (End of the Game)

Row / Column Column 1 (x=1) Column 2 (x=2)

**Row 2 (y=2)** G1P12L0B0222 G3P22R2B2000

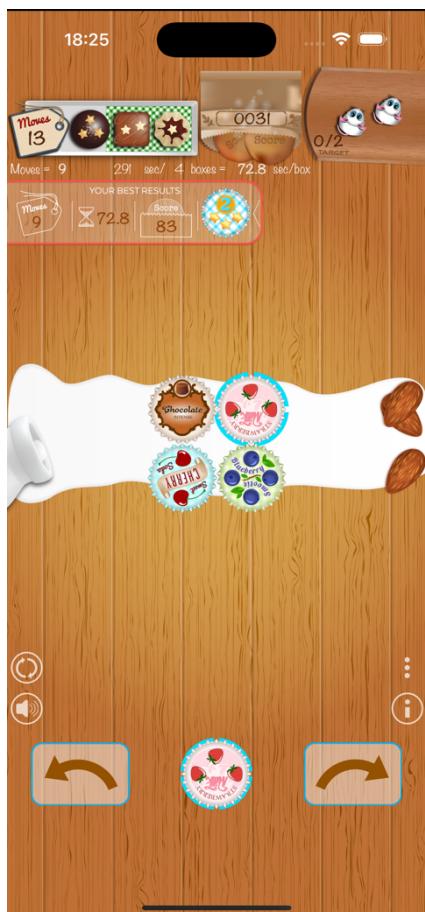
**Row 1 (y=1)** G2P11R2B0202 G4P21L0B0000

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## Virtual Column of Mice (End of Game)

- **M1:** Completed (P03)
- **M2:** Completed (P03)

**Remaining Inventory:** { G1: 0, G2: 0, G3: 0, G4: 0 }



**GAME COMPLETE!** Both mice have left the board. The Level 2 simulation has ended successfully in 9 moves. My analysis was correct and consistent.

Applying the **End of Game Protocol (v2.9)** , I ask you: do you want to "save" the history of this game in the History of Successfully Completed Games , or do we "delete" it?

*CONGRATULATIONS!! Game completed SUCCESSFULLY. Yes, save.*