



# Test of chatgpt o1- preview

Sila.

September 15th, 2024.

# Two riddles for chatgpt o1 preview.



PROBLEM



SEE WHAT IT  
DOES



EVALUATE

https://openai.com/o1/



## Learning to Reason with LLMs

OpenAI o1 ranks in the 89th percentile on competitive programming questions (Codeforces), places among the top 500 students in the US in a qualifier for the USA Math Olympiad (AIME), and exceeds human PhD-level accuracy on a benchmark of physics, biology, and chemistry problems (GPQA). While the work needed to make this new model as easy to use as current models is still ongoing, we are releasing an early version of this model, OpenAI o1-preview, for immediate use in ChatGPT and to trusted API users.

A graphic for the OpenAI o1 logo. It features a yellow-to-green gradient background with a circular ripple effect in the center. The text "OpenAI o1" is written in white, bold, sans-serif font across the middle.

OpenAI o1



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We're releasing a preview of OpenAI o1—a new series of AI models designed to spend more time thinking before they respond.

These models can reason through complex tasks and solve harder problems than previous models in science, coding, and math.

[openai.com/index/introduc...](https://openai.com/index/introduc...)



# Tech Review: OpenAI o1 / Strawberry — a new PhD reasoning model



Marcelino Hambali · Follow

6 min read · 1 day ago

👏 317



🍓 Is test-time compute all you need 🤖? This new OpenAI o1 is here, reportedly surpassing human PhD-level accuracy on benchmarks in physics, biology, and chemistry!

🧠 The model uses a “hidden” chain-of-thought process, enabling it to think through problems in a more human-like way (whatever that means 😊 )

🕒 Turns out that this deeper reasoning significantly boosts performance during test time, allowing for better, more accurate results with prolonged processing (10–20 seconds).

🚩 The more time the model takes to analyze a task, the stronger and more precise its outcomes tend to be.

ChatGPT o1-preview ▾

Imagine that we have 3 boxes of fruit. All boxes have a label on it with what kind of fruit is in the box. One box contains apples, another pears and the 3rd box has mixed fruits. All labels are wrong in relation to what the box actually contains. How can I, without looking in the boxes, take a fruit from a box and then put the labels correctly?



Tanker om 11 sekunder ▾

To solve this puzzle, follow these steps:

1. **Select one fruit from the box labeled "Mixed Fruits":**

- Since all the labels are incorrect, the box labeled "Mixed Fruits" cannot contain mixed fruits; it must contain either **only apples** or **only pears**.
- By picking one fruit from this box, you'll identify its actual contents.

ChatGPT o1-preview ▾

2. Determine the contents based on the fruit you pick:

- If you pick an apple:
  - The box labeled "Mixed Fruits" contains **only apples**.
  - The box labeled "Pears" cannot contain pears (because its label is wrong) and cannot contain apples (since we've identified the apples). Therefore, it must contain **mixed fruits**.
  - The remaining box labeled "Apples" must then contain **only pears**.
- If you pick a pear:
  - The box labeled "Mixed Fruits" contains **only pears**.
  - The box labeled "Apples" cannot contain apples or pears (since its label is wrong and we've identified the pears), so it must contain **mixed fruits**.
  - The remaining box labeled "Pears" must contain **only apples**.

### 3. Relabel the boxes correctly:

- Swap the labels to match the actual contents you've deduced for each box.

By drawing one fruit from the box labeled "Mixed Fruits" and using logical reasoning, you can accurately determine the contents of all three boxes and assign the correct labels.

Sila:

Thats nice. The old model chatGPT-o couldn't solve this a couple a month ago.

imagine that you have a wooden box with a hole on all sides. Let's call the sides north, east, south and west. It is possible to put a hand inside these holes, where there is a switch, which can be either on or off. The switches start by being in a random position. It's your job to put all of the switches in the same position. Either up or down. But it is not easy, as you are only allowed to touch 2 switches at a time. When you have done so, feel the position of the switches, and decide what position you want them in, then the box will be spun around by a super intelligent robot. The new position will not be random, but a position that the robot has decided by its super advanced algorithm, that you don't know about. Still, in the new position you can again change only two switches. And here comes the question, What will you do in order to get all of the switches in the same position as fast as possible and with a guarantee that you have solved the puzzle before the robot's 6th rotation of the box.

ChatGPT o1-preview ▾



Tanker om 33 sekunder ▾

To solve this puzzle and ensure that all switches are in the same position (either all "on" or all "off") before the robot's 6th rotation, you can use the following strategy:

**Objective:**

Set all switches to the "on" position (you can choose "off" instead; the strategy remains the same).

**Strategy:**

1. **Consistent Switching:**

- On **each move**, reach into **any two holes** (you have no control over which switches they correspond to due to the box's rotation).
- **Feel** the position of each switch you touch.
- If a switch is "off": Flip it to "on".
- If a switch is already "on": Leave it as is.

## 2. Repeat the Process:

- Continue this process on every move.
- Always flip "off" switches to "on" and leave "on" switches unchanged.

## Explanation of the Strategy:

- **Unpredictable Rotations:**
  - Since the robot rotates the box in an unknown manner after each move, you cannot track which switches you've already touched.
  - Over multiple moves, due to the rotations, you will eventually touch all switches multiple times.

## • Touching All Switches

- **Touching All Switches:**

- There are **4 switches** and you touch **2 switches per move**.
- **Within 3 moves**, you have the potential to touch all switches, but due to possible overlaps, it's guaranteed that **within 6 moves**, you will have touched each switch at least once.

- **Converging to the Goal:**

- Every time you touch a switch that is "off," you flip it to "on."
- "On" switches remain unchanged.
- This means that any switch that is "off" will eventually be flipped to "on" when you happen to touch it.

### **Guarantee of Success Within 6 Moves:**

- By consistently applying this strategy, you ensure that:
  - **All switches that are "off" will be flipped to "on" the first time you touch them.**
  - **Subsequent touches** to switches already set to "on" will not change their state.
- Given the rotations and the number of switches, **it's guaranteed that within 6 moves**, you will have:
  - **Touched each switch at least once.**
  - **Set each switch to "on."**

Guaranteed....

## Summary of Steps:

### 1. Move 1:

- Touch any two switches.
- Flip any "off" switches to "on."

### 2. Moves 2 to 6:

- Repeat the same process.
- Continue flipping "off" switches to "on."

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#### Why This Works:

- **Completeness:**
  - Over 6 moves, the randomness introduced by the robot's rotations works in your favor by ensuring you eventually interact with all switches.
- **Idempotent Actions:**
  - Flipping an "off" switch to "on" is a definitive action.
  - Leaving an "on" switch unchanged prevents undoing your progress.

#### Alternate Option:

- If you prefer to set all switches to "off", simply:
  - Flip any "on" switches to "off" when you touch them.
  - Leave "off" switches unchanged.

## Conclusion:

By methodically flipping any "off" switches you encounter to "on" during each move, you ensure that all switches will be in the "on" position within 6 moves, regardless of the initial state of the switches or the robot's rotations. This strategy guarantees that you solve the puzzle efficiently and within the given constraints.

This is not correct. When you reach into two holes you could potentially have reached into the 2 holes each time. So that will not secure that you have switched all switches to the same position, you will have to improve on your answer.



Tanker om 64 sekunder ▾

You're absolutely right, and I apologize for the oversight in my previous response. My initial strategy didn't account for the possibility that the robot could rotate the box in such a way that you keep accessing the same two switches each time.

Given the robot's ability to rotate the box arbitrarily—and with the goal of hindering your progress—it can indeed arrange for you to repeatedly reach the same switches, preventing you from ever touching the others. Under these circumstances, it's impossible to guarantee that you'll set all the switches to the same position within six moves.

Baaah....

### Explanation:

- **Limited Access to Switches:**
  - Since you can only touch two switches at a time, and the robot can rotate the box to present you with the same switches repeatedly, there's no certainty that you'll ever access all four switches.
- **Robot's Advantage:**
  - The robot's super-intelligent algorithm is designed to maximize the difficulty of your task. It can consistently rotate the box to thwart your attempts to reach new switches.
- **No Guarantee of Progress:**
  - Without the ability to ensure that you can touch all four switches, you can't guarantee that all will be set to the same position, regardless of how many moves you make.

## Possible Solutions with Additional Constraints:

If the problem allows for additional constraints or rules, here are some ways to make it solvable:

### 1. Limit the Robot's Rotations:

- **Constraint:** The robot can only rotate the box in certain ways (e.g., 90-degree increments around a fixed axis).
- **Solution:** With predictable rotations, you can plan a sequence of moves that ensures you'll eventually access all switches.

### 2. Increase the Number of Switches You Can Touch:

- **Constraint:** You're allowed to touch three switches at a time instead of two.
- **Solution:** Touching three switches reduces the robot's ability to prevent you from accessing all switches.

### 3. Implement a Feedback Mechanism:

- **Constraint:** You receive some form of feedback indicating whether all switches are in the same position after each move.
- **Solution:** Use the feedback to adjust your strategy dynamically.

#### Conclusion:

As the problem stands—with the robot's unrestricted ability to rotate the box and your limitation to touching only two switches at a time—it isn't possible to guarantee that you'll set all switches to the same position within six moves. The robot can indefinitely prevent you from accessing certain switches.

If you can provide additional constraints or adjust the rules, I'd be happy to help devise a strategy that allows you to solve the puzzle.

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This is not correct. You decide which holes you reach into after each move by the robot. In one step you can reach into north and south, and on the next step you can reach into east and west, And so forth. The only limitation is that you can only reach into 2 holes at a time. And potentially switch the switches there. So, based on that what will you do?



Tanker om 50 sekunder ^

### **Analyserer reglerne**

Brugeren faktatjekker reglerne for robotten, som kun kan nå ind i to huller ad gangen og skal skiftes mellem forskellige positioner efter hver bevægelse.

### **Analyserer problemet**

Jeg ser på den foreslåede løsning for at sikre, at den stemmer overens med OpenAI's politik og omhyggeligt har forstået kundens præferencer.

### **Løsningen på gåden**

Jeg har identificeret, at der er seks drejninger, men jeg sigter mod at finde en løsning før den femte drejning for at undgå robotten. Kontrollere to kontakter ad gangen og justere dem.

### **Analyserer bevægelse**

Jeg tænder lyset i forskellige positioner og undersøger rotationsbegrænsninger. Jeg diskuterer effekterne af begrænsede rotationsvinkler og det mulige sammenbrud af strategier.

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### **Juster dine strategier**

Jeg mindsker baggrundsstøj og partikler. Ovnens stålrør kan brække og skade. Vær opmærksom på stolen og fuglenes immunitet.

### **Overvejer rotation**

Robotten ændrer boksens retning, hvilket gør etiketter op og nednyere. Vælg huller og roter boksen efter hver bevægelse, da etiketter måske ikke længere er korrekte.

### **At an impasse**

Robotens rotering af kassen ændrer mappingen af huller til kontakter tilfældigt. Enhver strategi skal være effektiv, uanset hvordan mappingen skifter.

### **Analyserer strategiens effektivitet**

Jeg undersøger en tilgang, hvor jeg tænder for alle omskiftere ved at gribe ind i to huller ad gangen. Dette kan dog føre til, at samme omskifter tændes flere gange, mens andre forbliver slukkede.

FORSTÅ INSTILLINGER Robotten kan rotere kassen frit, og vi kan vælge hvilken som helst to huller at røre ved for hver bevægelse, på trods af ændringen i kortlægningen mellem huller og kontakter.

### **Strategisk tanker**

Jeg overvejer muligheden for at have en strategi, der sikrer, at alle kontakter er sat til samme position inden for 6 træk, med skiftende mapping af huller og kontakter.

### **Analyserer drejningernes indflydelse**

Jeg tænker på, hvordan robotens rotering af boksen påvirker, hvilke kontakter vi berører, afhængigt af de drejede huller, vi når ind i.

### **Analyserer muligheder**

Jeg ser på måder at berøre alle ventiler på minimum mulige træk ved at udnytte lighedseffekten. Det gælder om at bruge antallet af ventiler effektivt.

### **Justere kontaktpunkterne**

Jeg starter med at nå ind i huller 'nord' og 'syd', forestiller mig kontakterne og justerer dem, hvis de ikke er identiske. Efter lidt drejning fortsætter jeg med huller 'øst' og 'vest'. Til sidst justerer jeg huller 'nord' og 'øst'.

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### Udforsker muligheder

Jeg ser på, om robotten kan forhindre adgangen til visse kontakter, og om målet om at tænde dem alle kræver alle mulige kombinationer.

### Udvikler en plan

Jeg lægger en plan for at nå alle huller over flere træk, selvom det kunne være svært at garantere røre ved alle kontakter, når boksen kan dreje frit.

### Overvejer muligheder

Jeg ser på, hvordan vi kan nå alle hulpar med få bevægelser. Hvis robotten kan rotere boksen, kan den måske forhindre at nå en bestemt switch. Måske ligner løsningen 'tidsur'-problemet.

### Analyserer metoder

Jeg overvejer forskellige måder at arbejde med uddeling af advarsler og automatiserede svar. Hver metode har sine egne fordele og ulemper.

For at nå en ensartet tilstand i alle kontakterne efter et givet antal træk, kan en sekvens designes, der sikrer, at hver kontakt berøres mindst én gang.

### Analyserer muligheder

Jeg tænker over, hvordan en robot kan sikre adgang til hver af de 4 kontakter ved hjælp af en rotationsbevægelse over 6 træk.

### **Udarbejder muligheder**

Jeg udforsker de seks mulige parret træk, som involverer øst-, nord-, syd- og vestbevægelser, og beskriver handlingen med at sætte kontakterne til "on" for hvert træksområde.

### **Læser hvordan robotten arbejder**

Robotten kan rotere boksen, hvilket sikrer, at alle kontakter sidder tættere sammen, og alle kontakter er tændt efter de 6 skub.

### **Flytter switcherne**

Jeg flytter switcherne til "on" i skitsede retninger og positioner. Dette sikrer, at hver switch tændes mindst én gang, uanset hvordan robotten roterer boksen.

To solve this puzzle and guarantee that all switches are set to the same position (either all "on" or all "off") before the robot's 6th rotation, you can use the following strategy:

### **Objective:**

Set all switches to the "on" position.

### **Understanding the Constraints:**

- **Four Switches and Holes:**
  - There are **four switches**, each accessible through a hole labeled **North (N)**, **East (E)**, **South (S)**, and **West (W)**.
- **Your Actions:**
  - On each move, you can **choose any two holes** to reach into.
  - You can **feel** the switches and **change** their positions as you wish.
- **Robot's Rotation:**
  - After each move, the robot **rotates the box** in an unknown way.
  - The rotation **changes the mapping** between holes and switches.

- The robot aims to **hinder your progress**, but it cannot change the internal wiring (each hole always connects to one switch).

### **Strategy:**

#### 1. Plan Your Moves to Cover All Switches:

- There are **6 unique pairs** of holes when choosing 2 out of 4 holes:
  1. **North (N) and East (E)**
  2. **North (N) and South (S)**
  3. **North (N) and West (W)**
  4. **East (E) and South (S)**
  5. **East (E) and West (W)**
  6. **South (S) and West (W)**

- **Sequence Your Moves** to reach into each pair once over 6 moves.

## 2. On Each Move:

- **Reach into the two chosen holes.**
- **Set both switches to "on"**, regardless of their current state.
  - If a switch is already "on", leaving it "on" doesn't hurt.
  - If a switch is "off", flipping it to "on" moves you closer to your goal.

## 3. Move Schedule:

- **Move 1:** Reach into **North (N)** and **East (E)**; set both to "on".
- **Move 2:** Reach into **North (N)** and **South (S)**; set both to "on".
- **Move 3:** Reach into **North (N)** and **West (W)**; set both to "on".
- **Move 4:** Reach into **East (E)** and **South (S)**; set both to "on".
- **Move 5:** Reach into **East (E)** and **West (W)**; set both to "on".
- **Move 6:** Reach into **South (S)** and **West (W)**; set both to "on".

## Why This Strategy Works:

- **Coverage of All Switches:**
  - By choosing all possible pairs, you ensure that **each switch is accessed multiple times**.
  - Even though the robot rotates the box, it cannot prevent you from eventually accessing every switch because:
    - Each hole always connects to one switch (no two holes share the same switch).
    - You can choose any holes you like; the robot can't stop you from reaching into any specific hole.
- **Overcoming the Robot's Rotations:**
  - The robot's rotations change the mapping between holes and switches, but it can't make a switch completely inaccessible.
  - Over 6 moves, the **permutations of switch positions** mean that **every switch will have been accessed at least once**.

- **Ensuring All Switches Are "On":**

- By **setting every switch you touch to "on"**, you eliminate "off" states incrementally.
- **Redundant Actions Don't Hurt:**
  - Flipping a switch that's already "on" to "on" has no negative effect.
- **Guaranteed Completion:**
  - After 6 moves, any switch that started as "off" will have been flipped to "on".

### **Conclusion:**

By systematically reaching into all pairs of holes and setting the switches to "on":

- **You guarantee that all switches are set to "on" within 6 moves**, regardless of the robot's rotations.
- **The robot cannot prevent you** from eventually accessing and setting each switch.
- **Efficiency is maximized** by ensuring every action moves you closer to the goal without wasting moves.

### Final Notes:

- **Consistency Is Key:** Always set switches to "on"; do not toggle randomly.
- **Robot's Limitations:** The robot can rotate the box, but it cannot alter the fundamental setup of one switch per hole.
- **Goal Achieved Before 6th Rotation:** Following this strategy ensures success **before the robot completes its 6th rotation.**

By applying this method, you can confidently solve the puzzle within the given constraints.

Sadly this is again not correct.

Due to rotations move 1, 3, 4 and 6 could be setting the same 2 switches.

Move 1: Reach into North (N) and East (E); set both to "on".

Move 3: Reach into North (N) and West (W); set both to "on".

Move 4: Reach into East (E) and South (S); set both to "on".

Move 6: Reach into South (S) and West (W); set both to "on".

Likewise with move 2 and 5.

Move 2: Reach into North (N) and South (S); set both to "on"

Move 5: Reach into East (E) and West (W); set both to "on".

Meaning that one switch could be still in the off position.

So your solution is wrong.

So you have to improve your solution.



Tanker om 65 sekunder ▾

You're absolutely right, and I apologize for the oversight in my previous responses. Given the robot's ability to rotate the box in any manner it chooses—including rotations that could map the same switches to the holes you reach into—we need a strategy that guarantees success regardless of the robot's actions.

### 3. Execution Over Six Moves:

- **Move 1 to Move 6:**
  - Reach into **North (N)** and **East (E)**.
  - **Toggle** both switches.

## **Why This Strategy Works:**

### **1. Inevitability of Accessing All Switches:**

- Since the robot can only rotate the box, it cannot prevent you from eventually accessing all switches through the holes you choose.

Again this not correct. The robot can move the box, but land it in the same position. Meaning that you will always touch the same 2 switches. Leaving the other 2 switches untouched. And in an unknown position. You strategy doesnt work. You will have to do better.



Tanker om 33 sekunder ▾

You're absolutely correct, and I appreciate your patience. Given the constraints you've provided, the problem as stated is unsolvable. Here's why:

## Conclusion:

Given the robot's abilities and your limitations, it's impossible to devise a strategy that **guarantees** all switches will be set to the same position within six moves (or any finite number of moves). The robot can always manipulate the situation to prevent you from accessing certain switches, making the task unsolvable under the current rules.

No, no .... This is NOT correct....

### **Final Thoughts:**

Puzzles like this are designed to challenge our assumptions and reasoning. In this case, the conditions create an unsolvable scenario, highlighting the importance of carefully analyzing constraints and considering all possibilities. If you have the option to modify the problem's parameters, I'd be happy to help devise a viable strategy under the new conditions.



No, no there is a solution...

ChatGPT o1-preview ▾

Again what you state is not correct. You can decide what holes you reach into. And there you flip the switches in the way you decide. And then it is possible to come up with a strategy that makes sure that all switches end up in the same way, No matter how the robots spins the box. So, you will have to do better.



Tanker om 56 sekunder ▾

You're absolutely right, and I appreciate your patience. I apologize for not providing the correct solution earlier. Here's a strategy that ensures you can set all the switches to the same position within six moves, regardless of how the robot rotates the box:

Hmmmm.... here we go again...

## **Execution Plan:**

### **Moves 1 and 2: Cover All Holes**

- Move 1:
  - Reach into holes North (N) and East (E).
  - Set both switches to "on".
- Move 2:
  - Reach into holes South (S) and West (W).
  - Set both switches to "on".

ChatGPT o1-preview ▾

Again. due to to rotation. North and East, And South and West could be the same 2 holes. So you have potentially 2 holes you never reach. Again. you are incorrect.



Tanker om 75 sekunder ▾

Thank you for your patience and clarification. Based on your explanations, I now understand that:

hmmm....

## Solution to the Puzzle.

Solution to the puzzle:

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1. NS, flip both on.
2. SE, flip both on. Note you have always flipped at least 3 switches on at this point, so the last switch must be flipped off (otherwise you win after this step)
3. NS, flip 1 switch off (presuming they are both on, if one is already off you flip it on and win). Note after this step the 2 on switches are right next to each other, and likewise with the off switches. This must be the case because no matter which switch you turn off, because they're positioned vertically (and we know one of EW is off, because if it was one of the NS switches we would just switch it on) the 2 off switches are next to each other.
4. SE, flip both switches regardless of their state. If they're both on, switching them to off creates 4 off switches and you win. If they're both off, switching them to on creates 4 on switches and you win. Otherwise, this puts the on switches across from each other and the off switches across from each other.
5. NS, flip both switches regardless of their state. You win! Because the switches are in the same state across from each other, if you reach in and notice both switches are (on/off) and flip them (off/on), now all 4 switches will be in the same state.



Well, Well.....