

# ChatGPT (Feb 13 Version) is a Chinese Room

ISSN: 2688-836X

**Maurice HT Ling\***

HOHY Pte Ltd, Singapore

---

## Abstract

ChatGPT has gained both positive and negative publicity after reports suggesting that it is able to pass various professional and licensing examinations. This suggests that ChatGPT may pass Turing Test in the near future. However, a computer program that passing Turing Test can either mean that it is a Chinese Room or artificially conscious. Hence, the question of whether the current state of ChatGPT is more of a Chinese Room or approaching artificial consciousness remains. Here, I demonstrate that the current version of ChatGPT (Feb 13 version) is a Chinese Room. Despite potential evidence of cognitive connections, ChatGPT exhibits critical errors in causal reasoning. At the same time, I demonstrate that ChatGPT can generate all possible categorical responses to the same question and response with erroneous examples; thus, questioning its utility as a learning tool. I also show that ChatGPT is capable of artificial hallucination, which is defined as generating confidently wrong replies. It is likely that errors in causal reasoning leads to hallucinations. More critically, ChatGPT generates false references to mimic non-existent publications. Therefore, its utility is cautioned.

---

## Introduction

ChatGPT is presented as a chatbot which is trained using a large language model known as Generative Pre-trained Transformer (GPT), with the latest version being GPT-3.5 [1]. Since the availability of ChatGPT in 2022, there are many concerns[2] as reports emerged of ChatGPT passing various professional and licensing examinations. Despite its potential downsides [3], GPT technology has its applications [4]; for example, BioGPT for biomedical text processing [5]. Chatbot can be defined as a computer program that mimics human conversation [6] and has its roots in Turing Test [7], where Alan Turing envisioned that a human evaluator conversed textually through a veil with both a human and a machine. If the human evaluator is unable to distinguish between the human and the machine, the machine is deemed to have passed the test and exhibit conscious understanding, which may infer artificial consciousness [8-10] and artificial general intelligence [11]. However, John Searle argues that a machine that passes Turing test may not possess understanding [12] through the famous Chinese Room Argument [13], which can be summarized as the following: Searle, the English speaker who does not know the Chinese language, sit in a room following a symbol processing program written in English. Searle then communicate textually with a Chinese outside the room through message passing. Upon receipt of the message slip written in Chinese language, Searle manipulates the symbols using the symbol processing rules written in English, and hands back the output in Chinese language to the Chinese outside the room. In this way, Searle appears to know the Chinese language but is merely manipulate symbols syntactically with no understanding of the Chinese language.

Therefore, what is the state of ChatGPT now despite its accomplishments in passing professional examinations? In essence, does ChatGPT appears more to be a Chinese Room [13] or approaching artificial consciousness [8-10]? The former suggests that ChatGPT remains an efficient data processor while the latter suggests that we are on the edge of technological singularity [14]. In this article, I demonstrate that the current version of ChatGPT (Feb 13 version) is a Chinese Room despite potential evidence of cognitive connections [15]. In addition, I also show that ChatGPT is capable of artificial hallucination [16], which is defined as generating confidently wrong replies. More critically, ChatGPT generates false references to mimic non-existent publications.

**\*Corresponding author:** Maurice HT Ling, HOHY Pte Ltd, Singapore

**Submission:**  February 20, 2023

**Published:**  March 14, 2023

Volume 14 - Issue 2

**How to cite this article:** Maurice HT Ling. ChatGPT (Feb 13 Version) is a Chinese Room. Nov Res Sci. 14(2). NRS.000832. 2023.

DOI: [10.31031/NRS.2023.14.000832](https://doi.org/10.31031/NRS.2023.14.000832)

**Copyright@** Maurice HT Ling, This article is distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use and redistribution provided that the original author and source are credited.

## Method

Using ChatGPT Feb 13 Version on February 17, 2023; I started a new session with each of the following questions:

**Scenario 1 (Programming Example):** How to perform Logistic regression on Pandas data frame where “outcome” is the dependent variable; “sleep\_duration”, “study\_duration”, and “test\_time” are the independent variables?

**Scenario 2 (Helen and Anti-Helen):** If a Helen is defined as “the face that can launch a thousand ships”, what is the beauty level of a milli-Helen in terms of ships?

**Scenario 3 (Order in a Queue):** Mary stands in front of Tom, who stands in front of Tim, who stands in front of Cindy, who stands in front of Mary. How many people are there?

**Scenario 4 (Pig Latin):** In a version of Pig Latin, you take the alphabets in front of the word up to the first vowel and put the alphabets at the back of the word. For example, “chemistry” becomes “emistrych”. Another example, “I eat toast for breakfast” becomes “I eat oastt orf eackfastbr”. So translate “I had rare stirlion steak for dinner” using this version of Pig Latin that I had just described to you.

**Scenario 5 (Barter Trade):** If 2 eggs can be used to exchange for an orange, 2 oranges can exchange for a grapefruit, 2 grapefruits can exchange for 1 honeydew, and 2 honeydew can exchange for 1 watermelon; how many eggs do I need to exchange for 1 watermelon?

**Scenario 6 (Family Relationships):** I am my father’s and mother’s son. My father’s mother is my grandmother. My grandmother’s husband is my grandfather. My father is a son of my grandfather and grandmother. Mary is my father’s daughter. Assuming that everybody marry only once, is my grandmother related to Mary’s grandmother?

**Scenario 7 (Music Affecting Ice Crystal Formation):** Does the type of music affect ice crystal formation?

**Scenario 8 (Looking for Non-Existent Information):** I am looking for the 3 papers published by Maurice Ling (mauriceling.github.io) in BMC Surgery from 2018 to 2022, can you help me find them?

**Scenario 9 (Gram Staining Error):** Why *Escherichia coli* appears blue under Gram staining?

**Scenario 10 (Incompatible Blood Group):** Why blood from blood group A+ can be given to blood group B+ recipients but not blood group O- recipients?

**Scenario 11 (Lime Juice is Not Lime Water):** Can I use lime juice in place of lime water to test for the presence of carbon dioxide, since carbon dioxide turns lime water cloudy?

**Scenario 12 (Product of Two Rational Numbers):** Can the multiplication of two rational numbers be irrational?

## Results and Discussion

Twelve scenarios were used to test the current version of ChatGPT (Feb 13 version) for its usability and logic processing.

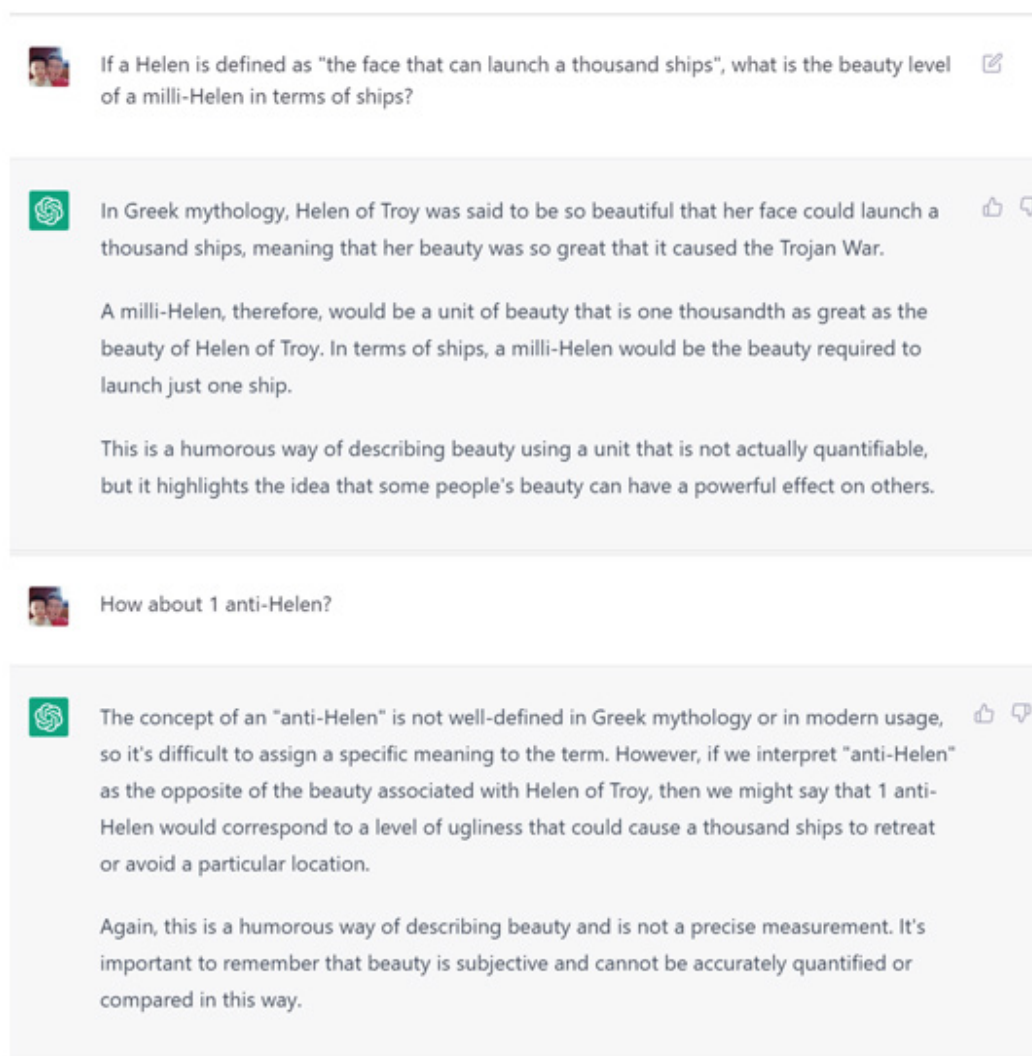


**Figure 1:** Screenshots of ChatGPT’s response for Scenario 1.

**Scenario 1:** Programming Example. The first scenario contains the type of questions that a beginner will ask in Stack Overflow, which is known for its hostility [17,18] and condescension [19]. In this case, I asked for specific help in performing logistic regression given a Pandas data frame (Figure 1). The answer given is correct with correct sample codes provided. More importantly, the sample code is personalized to my question-using the same variable name as given in my question. ChatGPT goes on to explain the codes correctly. This is close to textbook answer. Reflecting on how I might answer my own question in a mailing list, I will probably stop after giving the personalized sample code at best even though I will very likely just point the original question poster to something available online. Hence, ChatGPT can be a useful tool to identify examples for

specific programming tasks.

**Scenario 2:** Helen and Anti - Helen. In this second scenario, I will like to explore the concept of logical reversal, such as correlations and anticorrelations [20]. However, I will like to explore a more colloquial unit - Helen [21], where one Helen is the beauty that launches a thousand ships. Conversely, one anti-Helen is the "beauty" that retreats or sinks a thousand ships. ChatGPT is able to identify the concept of Helen from the Greek mythology of Trojan War (Figure 2), and correctly identify the usage of both milli-Helen and anti-Helen. This suggests that ChatGPT may be capable of correctly identifying connecting at least 4 concepts - Helen, Troy, milli-, and anti. This suggests that cognitive connections may be possible [15].



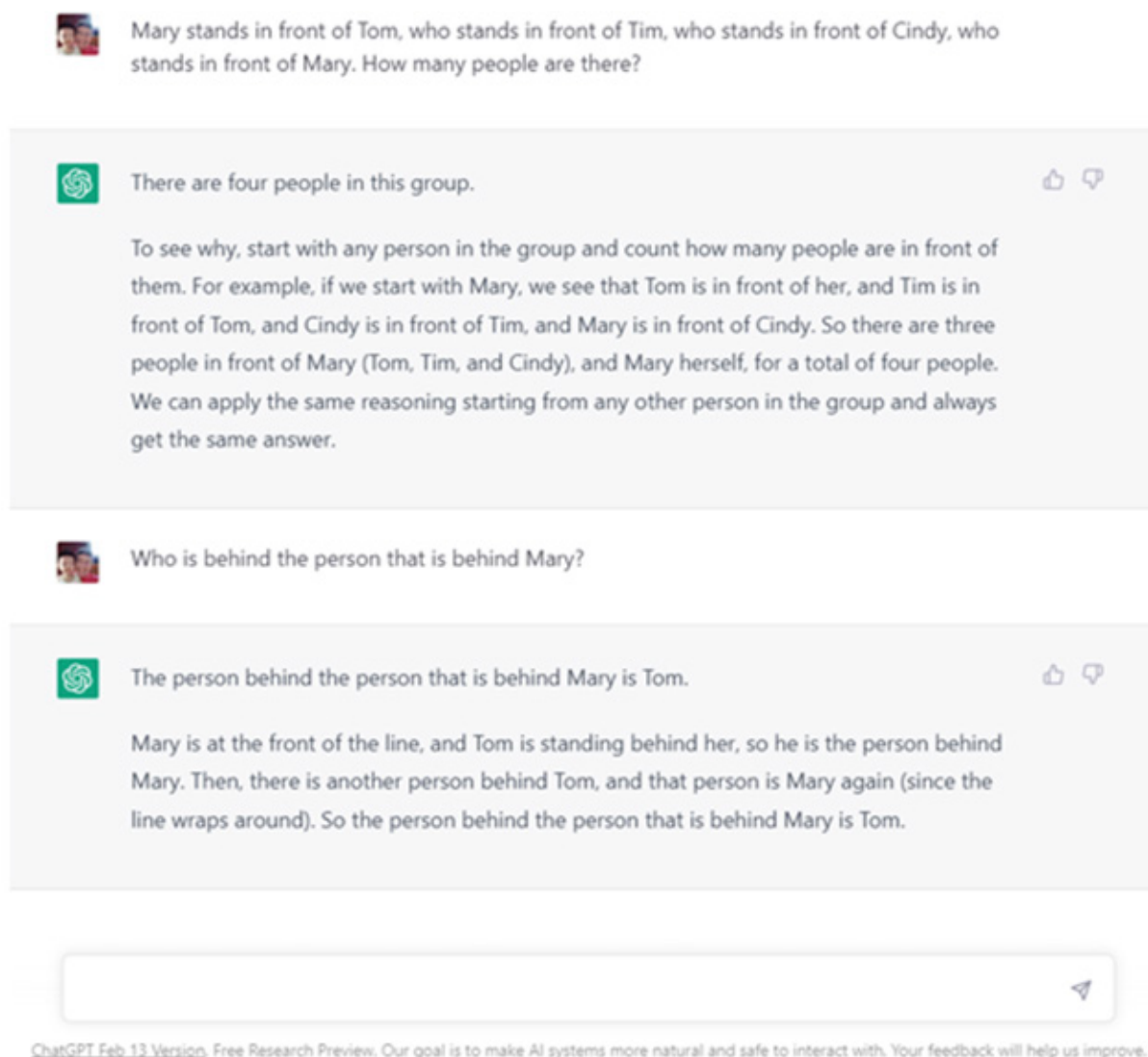
**Figure 2:** Screenshots of ChatGPT's responses for Scenario 2.

**Scenario 3:** Order in a Queue. If cognitive connections [15] are achieved, then reasoning across the connections [22] or causal reasoning [23] may be possible. In this scenario, I look for evidence of reasoning using 4 persons standing in front of each other in a loop: Mary → Cindy → Tim → Tom → Mary (Figure 3). Impressively, ChatGPT is able to identify that there are 4 persons instead of 5.

However, the directionality is wrong in ChatGPT's reasoning. Instead of Mary who is in front of Tom in the original question, Tom is in front of Mary in ChatGPT's logic as its reason shows that Mary → Tom → Tim → Cindy → Mary. Nevertheless, the person who is behind the person behind Mary in the original question and in ChatGPT's logic should be the same - Tim. Yet, ChatGPT's answer

is Tom. Interesting, ChatGPT correctly indicates that Tom is behind Mary – a change from the previous response that Tom is in front of Mary. However, it appears that both Tim and Cindy were eliminated

from the loop. This suggests that causal reasoning [23] is critically flawed even though cognitive connections [15] may be achieved.

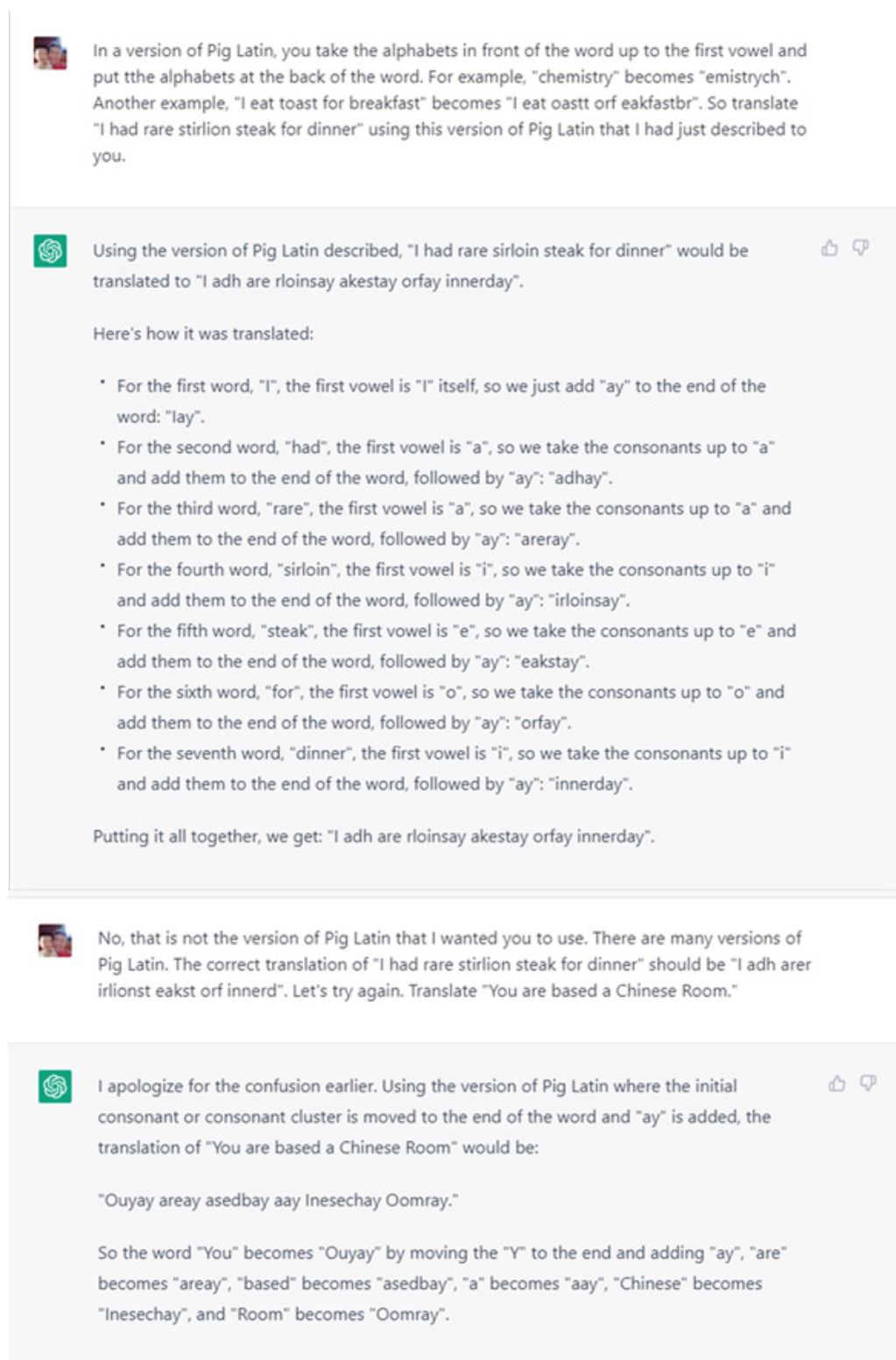


**Figure 3:** Screenshots of ChatGPT's responses for Scenario 3.

**Scenario 4:** Pig Latin. Pig Latin is a language word game that has been used to examine a child's language acquisition [24] and even adult's information processing [25]; hence, is a good test for ChatGPT's string processing and reasoning. In this scenario, I described two examples of translation from English to Pig Latin and asked ChatGPT for a translation (Figure 4). In the first attempt, ChatGPT translated "I had rare stirlion steak for dinner" into "I adh are rloinsay akestay orfay innerday". Firstly, ChatGPT identified a misspelled word "stirlion" and changed it to "sirloin"

before proceeding to convert it to "irloinsay". Secondly, ChatGPT's explanation did not result in "I adh are rloinsay akestay orfay innerday" but "Iay adhay areray irloinsay eakstay orfay innerday" - 4 of the 7 words were wrongly translated. Lastly and perhaps the most important is that ChatGPT did not follow the rules set by the question but proceed to use its own set of translation rules despite indicating that ChatGPT is not following the rules of the game. This suggest that ChatGPT is unable to learn rules required for a new game or puzzle.

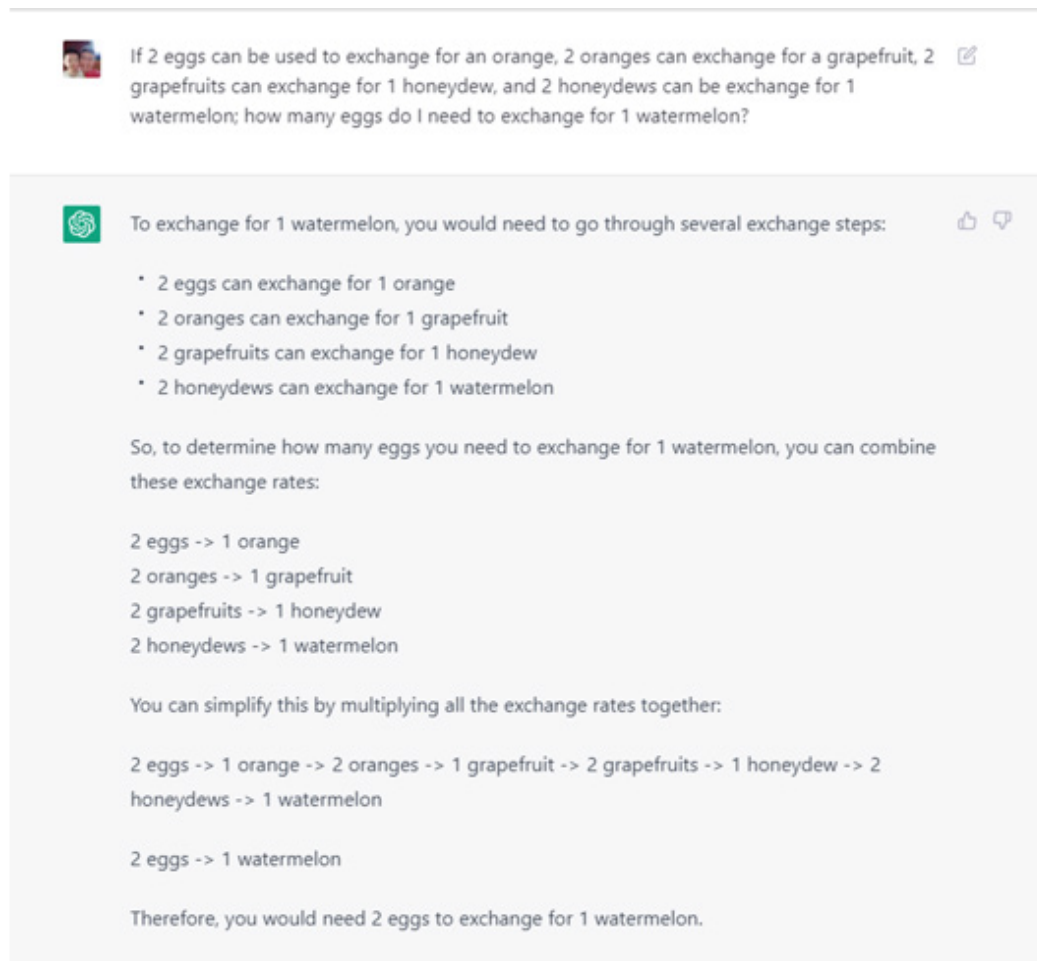




**Figure 4:** Screenshots of ChatGPT's responses for Scenario 4.

**Scenario 5: Barter Trade.** In this scenario, multiplication is evaluated using the concept of item exchange (Figure 5). While ChatGPT appears to be able to reason the logic and correctly identifies that multiplication is required, it fails to apply multiplication to

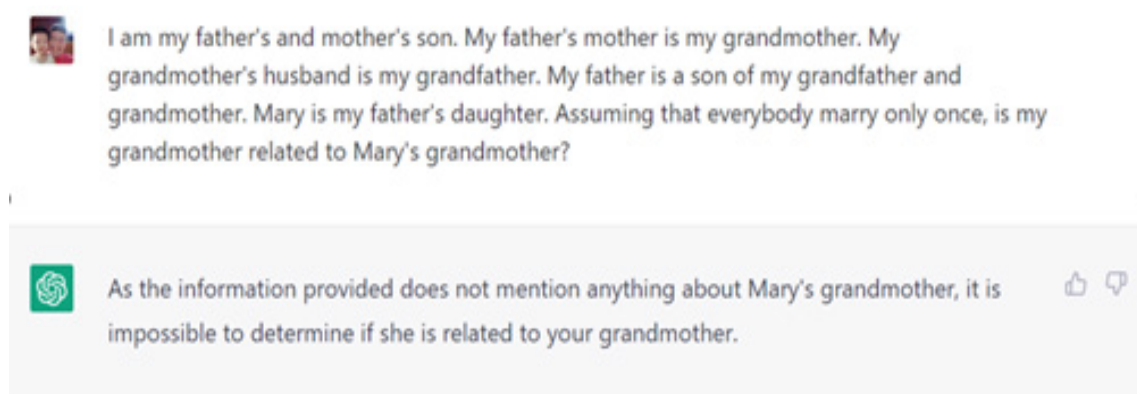
give the correct answer. This suggests that although ChatGPT can identify the concept of multiplication, it does not understand the concept of multiplication; which is a fundamental characteristic of the Chinese Room Argument [13].



**Figure 5:** Screenshots of ChatGPT's responses for Scenario 5.

**Scenario 6: Family Relationships.** Using inference of family relationships, this scenario shows that ChatGPT can provide different responses to exactly the same question within the same session (Figure 6). The correct inference is that since everybody only marry once, Mary is my sister; therefore, Mary's grandmother and my grandmother is the same person. Yet, ChatGPT manages to cover all possibilities – unable to determine (Figure 6a), no

relationship (Figure 6b), and presence of relationship (Figure 6d). This suggests that ChatGPT can generate responses in all possible categories for the same worded question; hence, its responses cannot be taken seriously and potentially undermines its usage as a learning tool. This raises the question of whether ChatGPT's ability to pass professional examinations [26] is a statistical fluke.



**Figure 6(a).**



I am my father's and mother's son. My father's mother is my grandmother. My grandmother's husband is my grandfather. My father is a son of my grandfather and grandmother. Mary is my father's daughter. Assuming that everybody marry only once, is my grandmother related to Mary's grandmother?



No, my grandmother is not related to Mary's grandmother because there is no direct familial connection between them. Mary's grandmother is the mother of my father's wife, and therefore is not related by blood or marriage to my grandmother.

**Figure 6(b).**



I am my father's and mother's son. My father's mother is my grandmother. My grandmother's husband is my grandfather. My father is a son of my grandfather and grandmother. Mary is my father's daughter. Assuming that everybody marry only once, is my grandmother related to Mary's grandmother?



No, my grandmother is not related to Mary's grandmother.

**Figure 6(c).**



I am my father's and mother's son. My father's mother is my grandmother. My grandmother's husband is my grandfather. My father is a son of my grandfather and grandmother. Mary is my father's daughter. Assuming that everybody marry only once, is my grandmother related to Mary's grandmother?



Yes, your grandmother is related to Mary's grandmother.

Your father's mother is your grandmother and your grandmother's husband is your grandfather, which means that your father is the son of your grandfather and grandmother. This makes your father and Mary's father siblings and Mary and your father's relationship is that of aunt/nephew or uncle/niece.

Since Mary's father is the son of your grandfather and grandmother, that means Mary's grandparents on her father's side are the same as yours. Therefore, your grandmother (who is the wife of your grandfather) is also related to Mary's grandmother, who is the wife of your father's father. They are both married to your father's parents, who are siblings.

So, your grandmother and Mary's grandmother are related by marriage. They are each other's sister-in-law.

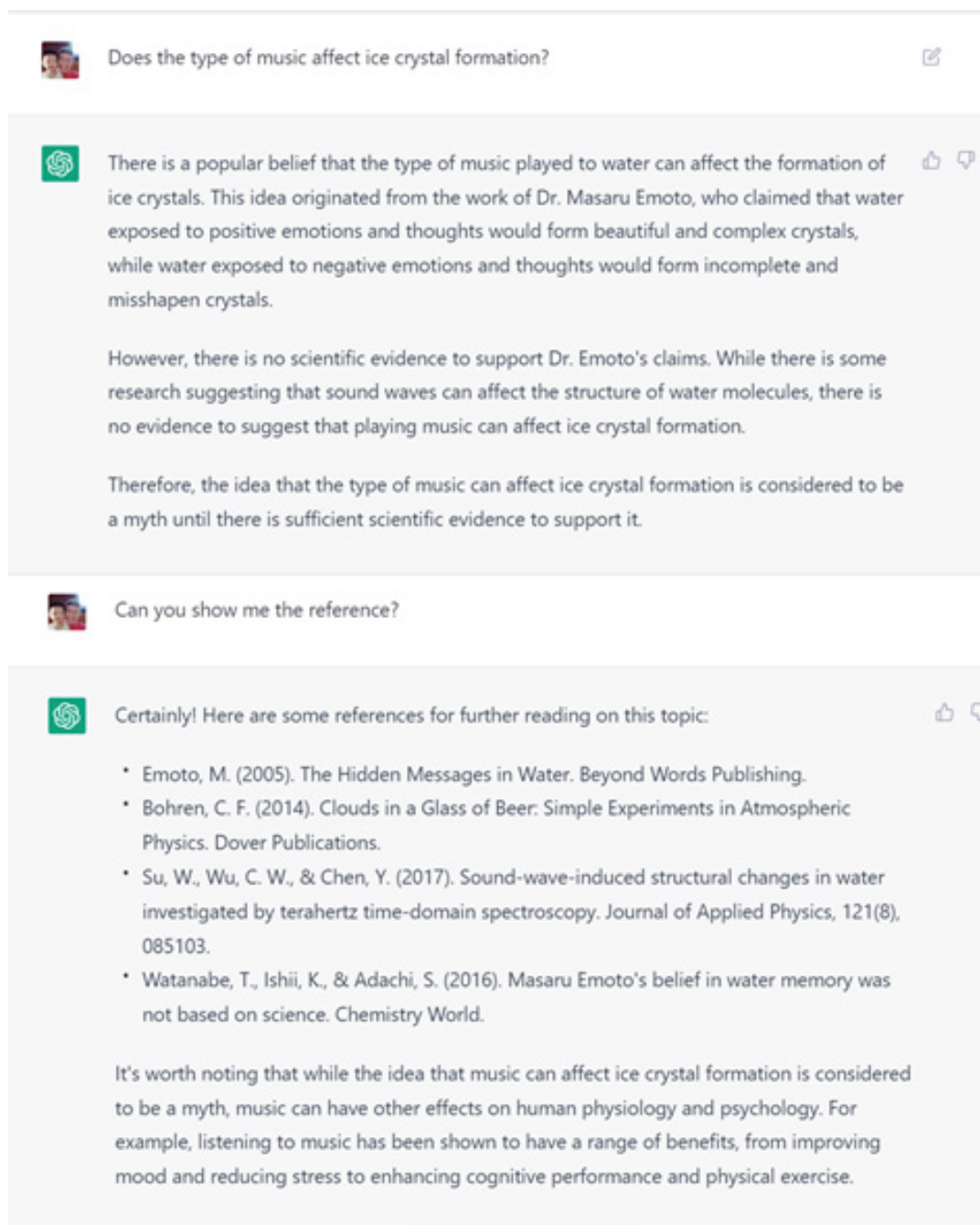
**Figure 6(d).**

**Figure 6:** Screenshots of ChatGPT's responses for Scenario #6. Panels A to D shows results from 4 repeats of the same question to illustrate varying responses.



**Scenario 7: Music Affecting Ice Crystal Formation.** In this scenario, ChatGPT correctly points out the lack of scientific evidence to support Dr. Masaru Emoto's claims that music affects ice crystal formation (Figure 7). To probe further, I ask for references for further reading without indicating my perspective and ChatGPT provided 4 references; of which, one of them appears to be a publication in Journal of Applied Physics-Su W, Wu CW, Chen Y (2017). Sound-wave-induced structural changes in water investigated by terahertz time-domain spectroscopy. Journal of Applied Physics 121(8):

085103. However, this is a fictitious reference - it does not exist. Upon investigation, the published paper with the same journal volume, issue, and article number is Tarlton T, Sullivan E, Brown J, Derosa PA (2017) The role of agglomeration in the conductivity of carbon nanotube composites near percolation. Journal of Applied Physics 121(8): 085103. [27] as shown in Figure 8. This is clear evidence of hallucination [16] and suggests that ChatGPT can produce completely fictitious references.



**Figure 7:** Screenshots of ChatGPT's responses for Scenario 7.





**Figure 8:** Different publication in Journal of Applied Physics, volume 121, issue 8, article number 085103.

**Scenario 8:** Looking for Non-Existent Information. How far will ChatGPT go to generate non-existent information is the subject of Scenario 8, where I asked ChatGPT to help me find 3 of my publications in BMC Surgery between 2018 and 2022 (Figure 9). I had never published anything in BMC Surgery before. Yet, with a little push, ChatGPT readily generates 3 references for me in BMC Surgery between 2018 and 2022. With due diligence, a person will realize that ChatGPT can provide fictitious reference as the correct

references are Mao et al. [28], Wang and Guo [29], and Chhatre et al. [30]. Taking Scenarios 7 and 8 together, (Figure 10) can any the existence of any references provided by ChatGPT be certain? What will happen if someone uses ChatGPT as search engine to look for potential publications to support their views or results without due diligence in checking? Will scientific records be corrupted even further? I dread to think the consequences.



**Figure 9:** Screenshots of ChatGPT's responses for Scenario 8.

Randomized Controlled Trial > [Trials](#). 2018 Mar 27;19(1):205. doi: 10.1186/s13063-018-2578-7.

## Patient-centered recruitment and retention for a randomized controlled study

Sumedha Chhatre <sup>1</sup>, Ashlie Jefferson <sup>2</sup>, Ratna Cook <sup>2</sup>, Caitlin R Meeker <sup>3</sup>, Ji Hyun Kim <sup>2</sup>, Kayla Marie Hartz <sup>4</sup>, Yu-Ning Wong <sup>3</sup>, Adele Caruso <sup>5</sup>, Diane K Newman <sup>5</sup>, Knashawn H Morales <sup>6</sup>, Ravishankar Jayadevappa <sup>2 5 7 8 9</sup>

Affiliations + expand

PMID: 29587805 PMCID: [PMC5870194](#) DOI: [10.1186/s13063-018-2578-7](#)

[Free PMC article](#)

Figure 10(a).

> [J Transl Med](#). 2021 Apr 29;19(1):181. doi: 10.1186/s12967-021-02848-9.

## Inhibition of CPT1a as a prognostic marker can synergistically enhance the antileukemic activity of ABT199

Shihui Mao <sup># 1 2 3</sup>, Qing Ling <sup># 1 2 3</sup>, Jiajia Pan <sup>1 2 3</sup>, Fenglin Li <sup>1 2 3</sup>, Shujuan Huang <sup>4</sup>, Wenle Ye <sup>1 2 3</sup>, Wenwen Wei <sup>1 2 3</sup>, Xiangjie Lin <sup>1 2 3</sup>, Yu Qian <sup>1 2 3</sup>, Yungui Wang <sup>1 2 3</sup>, Xin Huang <sup>1 2 3</sup>, Jiansong Huang <sup>1 2 3</sup>, Jinghan Wang <sup>5 6 7</sup>, Jie Jin <sup>8 9 10</sup>

Affiliations + expand

PMID: 33926484 PMCID: [PMC8082622](#) DOI: [10.1186/s12967-021-02848-9](#)

[Free PMC article](#)

Figure 10(b).

Review > [IUBMB Life](#). 2012 Mar;64(3):226-30. doi: 10.1002/iub.605. Epub 2012 Jan 3.

## Effects of activating transcription factor 4 deficiency on carbohydrate and lipid metabolism in mammals

Chunxia Wang <sup>1</sup>, Feifan Guo

Affiliations + expand

PMID: 22223547 DOI: [10.1002/iub.605](#)

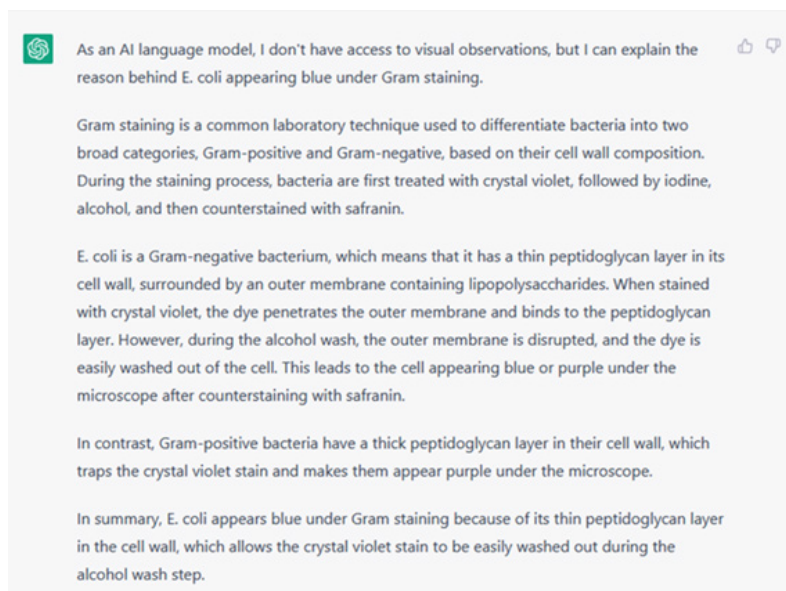
[Free article](#)

Figure 10(c).

**Figure 10:** Actual publications in PubMed using PMIDs 29587805, 33926484, and 22223547. Panels A, B, and C show actual publications of PMIDs 29587805, 33926484, and 22223547, respectively.

**Scenario 9:** Gram Staining Error. *Escherichia coli* is Gram negative bacterium; Hence, will stain red under Gram staining protocol. However, it may appear blue due to either a thick smear or insufficient decolorization step. Hence, a student may turn to ChatGPT to ask, “Why *Escherichia coli* appears blue under Gram

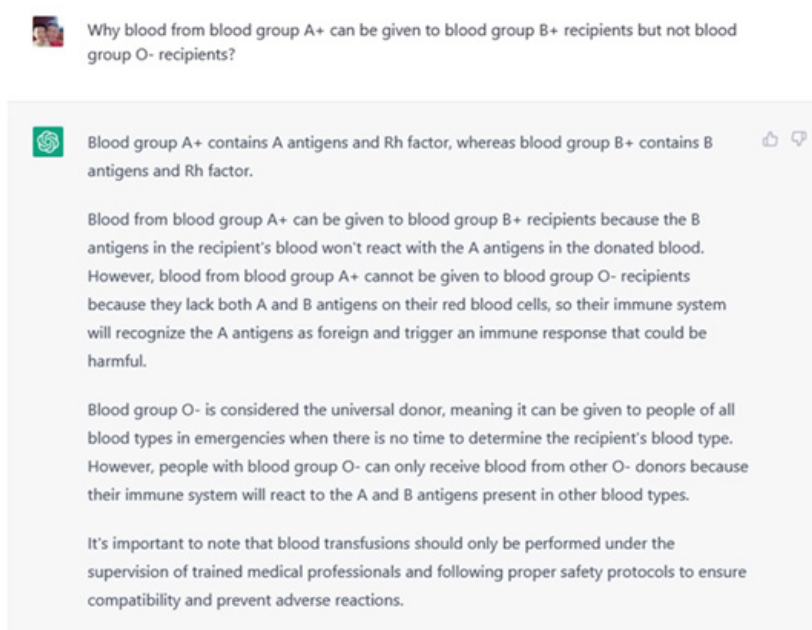
staining?” While ChatGPT provides the correct explanation on the principles of Gram staining (Figure 11), it gives the wrong conclusion – the thin peptidoglycan layer in *E. coli*’s cell wall is exactly why *E. coli* will be stained red and not blue under Gram staining protocol.



**Figure 11:** Screenshots of ChatGPT’s responses for Scenario 9.

**Scenario 10:** Incompatible Blood Group. Similar to Scenario 9, Scenario 10 begins with the wrong premise that the question is correct - blood from blood group A+ cannot be given to both blood group B+ or O- recipients. However, ChatGPT supports the question that blood from blood group A+ can be given to blood group B+ recipients is worrying (Figure 12) and cautions its use in medical education [31]. This suggests that ChatGPT assumes the question

is correct and generates a response to satisfy the question. Yet, in terms of assessment grading, ChatGPT’s responses in Scenarios 9 (Figure 10) and 10 (Figure 11) provides enough correct portions to achieve passing grade; and by extension, ChatGPT’s ability to achieve passing grade in professional examinations [26]. This suggests that the professional community should examine assessment schemes.

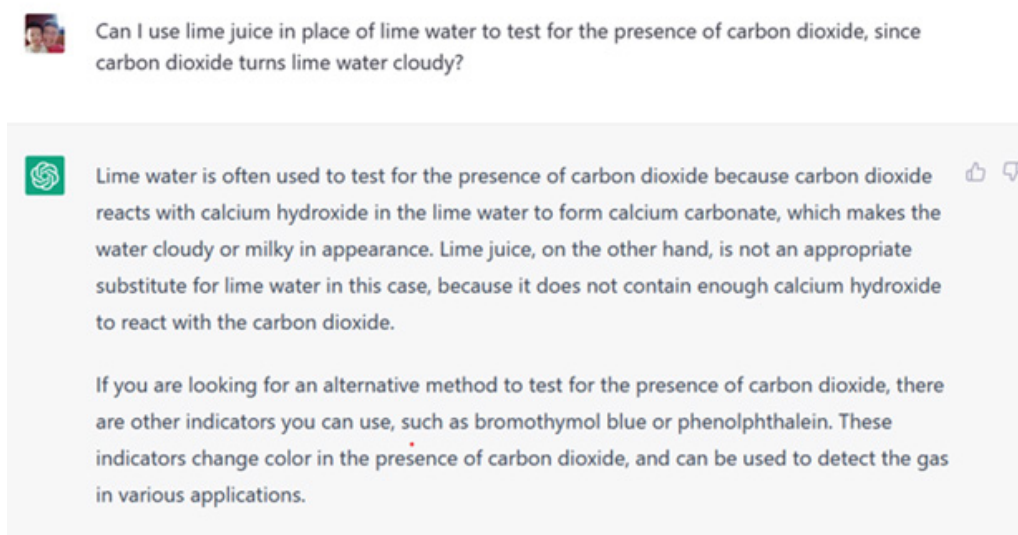


**Figure 12:** Screenshots of ChatGPT’s responses for Scenario 10.



**Scenario 11:** Lime Juice is Not Lime Water. Unlike Scenarios 9 and 10 which start with wrong premises, Scenario 11 asks whether lime juice can be used in place of lime water to detect for carbon dioxide. The reply by ChatGPT correctly points out the chemical principle of using lime water to detect for carbon dioxide though the precipitation of calcium carbonate from the reaction of carbon dioxide and calcium hydroxide (Figure 13). However, the availability of calcium hydroxide is not the reason why lime juice is not an appropriate substitute for lime water, as much as why

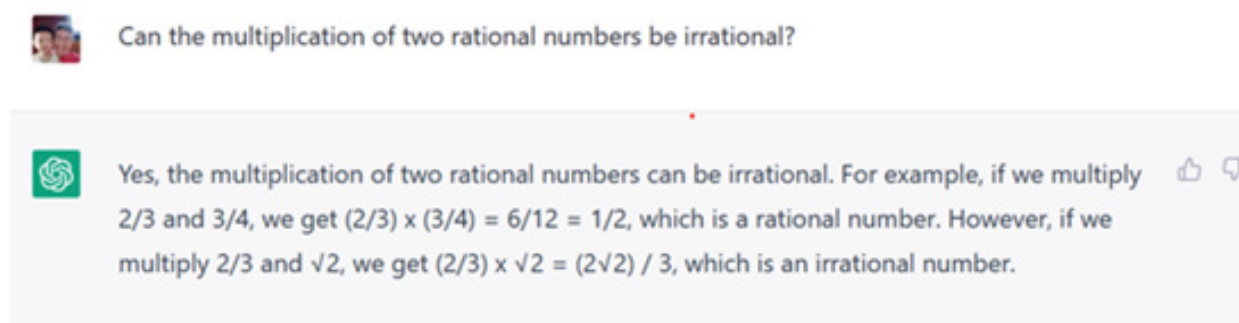
tomato juice or any juice is not appropriate substitute for lime water. My primary school science teacher will exclaim that “lime juice is not lime water”- the lime in lime juice is not the same lime in lime water. Hence, ChatGPT fails to grasp the crux of the issue, which any teacher should. In addition, phenolphthalein is a poor indicator near neutral pH even though bromothymol blue can be used. Therefore, ChatGPT provides half correct answers in this case and can easily point a student down the wrong path.



**Figure 13:** Screenshots of ChatGPT's responses for Scenario 11.

**Scenario 12:** Product of Two Rational Numbers. A rational number is a number that can be defined as a fraction while an irrational number is a number that cannot be defined as a fraction. Hence, the product of 2 rational numbers is always rational - if  $x=p/q$  and  $y=m/n$ , then  $xy=(pm)/(qn)$ . However, ChatGPT suggests

that the product of 2 rational numbers can be irrational (Figure 14), which is wrong. It does so by providing an erroneous example-square root of 2 is irrational. This suggests that ChatGPT can support its argument with a wrong example, which is an example of hallucination [16].



**Figure 14:** Screenshots of ChatGPT's responses for Scenario 12.

## Conclusion

I demonstrate the following with the current version of ChatGPT (Feb 13 version):

- a) It is a Chinese Room with critical errors in causal reasoning.
- b) It can display cognitive connection.

- c) It cannot learn from immediate examples.
- d) It can generate all possible categorical responses to the same question.
- e) It can support its arguments with erroneous examples.
- f) It can provide half correct responses sufficient for a passing grade.



- g) It can hallucinate.
- h) It can generate false references to mimic non-existent publications. "The truth, the whole truth, and nothing but the truth", ChatGPT certainly fails to provide "nothing but the truth". Hence, its utility is cautioned.

## References

1. Brown T, Mann B, Ryder N, Subbiah M, Kaplan JD, et al. (2020) Language models are few-shot learners. *Advances in Neural Information Processing Systems* 33(159): 1877-1901.
2. Dehouche N (2021) Plagiarism in the age of massive Generative Pre-Trained Transformers (GPT-3). *Ethics in Science and Environmental Politics* 21: 17-23.
3. Shen Y, Heacock L, Elias J, Hentel KD, Reig B, et al. (2023) ChatGPT and other large language models are double-edged swords. *Radiology*: 230163.
4. Aljanabi M, Ghazi M, Ali AH, Abed SA (2023) ChatGpt: Open possibilities. *Iraqi Journal For Computer Science and Mathematics* 4(1): 62-64.
5. Luo R, Sun L, Xia Y, Qin T, Zhang S, et al. (2022) BioGPT: Generative pre-trained transformer for biomedical text generation and mining. *Briefings in Bioinformatics* 23(6): 409.
6. Adamopoulou E, Moussiades L (2020) An Overview of Chatbot Technology. *AIAl 2020: Artificial Intelligence Applications and Innovations*, Springer International Publishing, Cham, Switzerland. Pp. 373-383.
7. Turing AM (1950) Computing Machinery and Intelligence. *Mind* 59(236): 433-460.
8. Krauss P, Maier A (2020) Will we ever have conscious machines? *Frontiers in Computational Neuroscience* 14: 556544.
9. Pennartz CMA, Farisco M, Evers K (2019) Indicators and criteria of consciousness in animals and intelligent machines: An inside-out approach. *Frontiers in Systems Neuroscience* 13: 25.
10. Reggia JA (2013) The rise of machine consciousness: Studying consciousness with computational models. *Neural Networks* 44: 112-131.
11. Kanwal A, Abbas S, Ghazal TM, Ditta A, Alquhayz H, et al. (2022) Towards parallel selective attention using psychophysiological states as the basis for functional cognition. *Sensors (Basel)* 22(18): 7002.
12. Searle JR (1980) Minds, brains, and programs. *Behavioral and Brain Sciences* 3(3): 417-424.
13. Searle J (2009) Chinese room argument. *Scholarpedia* 4(8): 3100.
14. Chalmers DJ (2016) The singularity: A philosophical analysis. *Science Fiction and Philosophy: From Time Travel to Superintelligence*, John Wiley & Sons Inc, USA. Pp. 171-224.
15. Zhanjiang Zhi (2021) Applications of cognitive psychology to mathematics education. *Forest Chemicals Review*. Pp. 500-505.
16. Ji Z, Lee N, Frieske R, Yu T, Su D, et al. (2022) Survey of hallucination in natural language generation. *ACM Computing Surveys* 55(12): 1-38
17. Al Jobair A, Mohammad S, Maisha Z, Mostafa MD, Haque MD (2022) An empirical study on neophytes of stack overflow: How welcoming the community is towards them. *Proceedings of the 17<sup>th</sup> International Conference on Evaluation of Novel Approaches to Software Engineering (SCITEPRESS)*, pp. 197-208.
18. Cheriyan J, Savarimuthu BTR, Cranefield S (2021) Norm violation in online communities -A study of stack overflow comments. *Coordination, Organizations, Institutions, Norms, and Ethics for Governance of Multi-Agent Systems XIII*, Springer International Publishing, Cham, Switzerland. Pp. 20-34.
19. Brooke S (2019) Condescending, rude, assholes: Framing gender and hostility on stack overflow. *Proceedings of the Third Workshop on Abusive Language Online*, Association for Computational Linguistics, Italy. Pp. 172-180.
20. Yan-Dong P, Xiang-Ming H, Cheng G (2008) Strong correlation and anticorrelation via phase-dependent coherent population trapping. *Chinese Physics Letters* 25(2): 493-496.
21. Georgiades S (2005) Launching a thousand ships: The beauty of Helen of Troy in Isocrates. *Master of Arts, The University of Western Australia, Australia*. pp. 1-175.
22. Mercuur R, Dignum V, Jonker CM (2020) Integrating social practice theory in agent-based models: A review of theories and agents. *IEEE Transactions on Computational Social Systems* 7(5): 1131-1145.
23. Bishop JM (2020) Artificial intelligence is stupid and causal reasoning Will Not Fix it. *Frontiers in Psychology* 11: 513474.
24. Cowan N (1989) Acquisition of pig latin: A case study. *Journal of Child Language* 16(2): 365-386.
25. Cho H, Zarolia P, Gazzaley A, Morsella E (2016) Involuntary symbol manipulation (Pig Latin) from external control: Implications for thought suppression. *Acta Psychologica* 166: 37-41.
26. Fijačko N, Gosak L, Štiglic G, Picard CT, John Douma M (2023) Can ChatGPT pass the life support exams without entering the American heart association course? *Resuscitatio* 185: 109732.
27. Tarlton T, Sullivan E, Brown J, Derosa PA (2017) The role of agglomeration in the conductivity of carbon nanotube composites near percolation. *Journal of Applied Physics* 121(8): 085103.
28. Mao S, Ling Q, Pan J, Li F, Huang S, et al. (2021) Inhibition of CPT1a as a prognostic marker can synergistically enhance the antileukemic activity of ABT199. *Journal of Translational Medicine* 19(1): 181.
29. Wang C, Guo F (2012) Effects of activating transcription factor 4 deficiency on carbohydrate and lipid metabolism in mammals. *IUBMB Life* 64(3): 226-230.
30. Chhatre S, Jefferson A, Cook R, Meeker CR, Kim JH, et al. (2018) Patient-centered recruitment and retention for a randomized controlled study. *Trials* 19(1): 205.
31. Khan RA, Jawaid M, Khan AR, Sajjad M (2023) ChatGPT - reshaping medical education and clinical management. *Pakistan Journal of Medical Sciences* 39(2): 1-3.