

For this assignment I recalled a memory. When I first learned logic in university, I tried to test some of the statements and truth tables with ChatGPT. However, it seemed to get the statements wrong. So, I tried again with a simple implication: Rainbow elephants fly.



You

If I say 'Rainbow elephants fly', is that a true or false statement.



ChatGPT

The statement "Rainbow elephants fly" is false. Elephants, regardless of their color, do not have the ability to fly. Additionally, the concept of rainbow elephants implies a combination of unusual and fantastical elements that do not exist in reality.

And I got exactly what I expected. So, I started dancing around the topic of implication.



You

have you heard of implication in logic?



ChatGPT

Yes, I'm familiar with implication in logic. In logic, implication typically refers to the relationship between two statements, where the truth of one statement (the antecedent) guarantees the truth of another statement (the consequent). In symbolic logic, implication is often represented by the arrow symbol " \rightarrow ."

For example, if we have the implication " $p \rightarrow q$," it means that if statement " p " is true, then statement " q " must also be true. However, if " p " is false, the implication does not provide information about the truth or falsity of " q ."

In the context of your statement "Rainbow elephants fly," we can interpret it as a proposition with an implied relationship. However, in the real world, the statement is false because elephants, regardless of color, do not have the ability to fly.

But still got the answer that my statement is false. Even though it clearly knows what's an implication and how does it work.



You

if the existence of the rainbow elephant is false then shouldn't the statement be true? Because by the rules of the implication if false \rightarrow false is TRUE but also false \rightarrow true is TRUE



ChatGPT

You're correct in pointing out a nuance in logical implications. In classical logic, the statement "false \rightarrow false" is considered true, and "false \rightarrow true" is also considered true. This is known as material implication.

So, if we interpret your statement "Rainbow elephants fly" in a logical context where the existence of rainbow elephants is considered false, the entire statement would be considered true according to the rules of material implication. This is because the truth value of the antecedent (false) doesn't have any impact on the truth value of the implication.

In conclusion ChatGPT accepted my proofing and the statement is considered true.