

### Study Tip

The type of fallacy at the right is called *denying the antecedent*.

- Premise: If  $P$ , then  $Q$ .
- Premise:  $P$  is not true.
- Conclusion: Therefore,  $Q$  is not true. ☹



Alan Turing was an English logician, cryptanalyst, and computer scientist. He is often considered the father of modern computer science. During World War II, Turing devised methods for breaking German codes, and because of this, some have called him “the man who saved the world.”

There are many types of deductive fallacies. If you take a formal course in logic, you might encounter a dozen different types. Here is another example.

- Premise: When it rains, the ground gets wet.
- Premise: It isn’t raining.
- Conclusion: Therefore, the ground is not wet. ☺

When examining arguments, keep reminding yourself, “It’s not about whether the conclusion is true or false. It’s about whether the conclusion was deduced in a logically valid way.”

Oddly, the following syllogism *is* valid.

- Premise: When it rains, the ground gets wet.
- Premise: The ground is not wet.
- Conclusion: Therefore, it must not have rained. ☺

### EXAMPLE 2 Detecting a Fallacy

Is the logic in this Alan Turing quote valid?

“If each man had a definite set of rules of conduct by which he regulated his life he would be no better than a machine. But there are no such rules, so men cannot be machines.”

“Computing Machinery and Intelligence,” Alan Turing

### SOLUTION

This argument is not valid. It is an example of *denying the antecedent*. In fact, in his article “Computing Machinery and Intelligence,” Turing actually states that this is an example of an invalid argument.

- Premise: If each man had a definite set of rules of conduct by which he regulated his life, he would be no better than a machine.
- Premise: There is no set of rules of conduct.
- Conclusion: Therefore, men cannot be machines. ☹

### ✓ Checkpoint

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Outline the invalid syllogism described in the article.

The buyer of a new vehicle brought claims against a manufacturer under Ohio’s Lemon Law and for breaches of a warranty act. The trial court ruled in favor of the defendant on both claims. The court of appeals analyzed the trial court’s logic. The trial court first addressed the plaintiff’s Lemon Law claim and determined that it was invalid. Next, the trial court concluded that since the Lemon Law claim was not valid, the warranty act claim was not valid. The court of appeals rejected the trial court’s reasoning, based on the fallacy of *denying the antecedent*.

Summarized from “Conventional Logic: Using the Logical Fallacy of Denying the Antecedent as a Litigation Tool,” Stephen Rice