If a person says, "I am lying at this moment", is he lying or telling the truth?

If the speaker is telling the truth, he is lying because he is not lying; and if he is lying, he is telling the truth because he is lying.

Since it is not possible to simultaneously lie and tell the truth, the statement is a true paradox (something that is self-contradictory and cannot be).

When logically analyzing a problem, one tries to identify and eliminate such impossibilities.  To paraphrase Arthur Conan Doyle's Sherlock Holmes, "After you eliminate the impossible, whatever remains, no matter how improbable, must be true."  Goal: learn how to eliminate the impossible.

On a distant island live three types of humans - Knights, Knaves and Normals. The Knights always tell the truth, the Knaves always lie, and the Normals sometimes lie and sometimes tell the truth.

Detectives questioned three inhabitants of the island - Al, Bob, and Clark - as part of the investigation of a terrible crime. The investigators knew that one of the three committed the crime, but did not at first know which one. They also knew that the criminal was a Knight, and that the other two were not. How they knew these things is not important for the solution.

Additionally, the investigators made a transcript of the statements made by each of the three men. What follows is that transcript:

Al: I am innocent.

Bob: That is true.

Clark: Bob is not a Normal.

After carefully and logically analyzing their information, the investigators positively identified the guilty man. Was it Al, Bob or Clark?

3 step procedure to approach the problem and arrive at an answer

1. List all possible solutions to the puzzle, stating each clearly and concisely.
2. List the facts given in the problem. Assume all assertions made are factually true.
3. Evaluate each possible solution using the facts you've listed, and those you prove as you go through the process. After finishing, you will find that only one solution is consistent with all facts. Each of the others is in direct conflict with one or more, thereby creating an impossibility.
4. Possible solutions (the correct one is highlighted)

* Al is the Knight/criminal.
* Bob is the Knight/criminal.
* Clark is the Knight/criminal.

1. Fact list

* Knights always tell the truth.
* Knaves always lie.
* Normals sometimes lie and sometimes tell the truth.
* Only one of the three men is a Knight.
* The guilty man is that Knight.
* Al says, "I am innocent."
* Bob says, "That is true."
* Clark says, "Bob is not a Normal."

1. Evaluation of possible solutions (with deduced facts in **bold**)

* If Al is the guilty Knight, his statement is a lie. Since we know it is impossible for Knights to lie, Al cannot be guilty. Therefore, he must be telling the truth. Since there is only 1 Knight, we now know it cannot be Al.  
   **Al is a truth-telling Normal.**
* If Bob is lying, Al must be guilty. Since we know from evaluating solution #1 that this cannot be, Bob must be telling the truth. Therefore,   
    
  **Bob is either a truth-telling Normal or the guilty Knight.**
* If Bob is a Normal, then Clark is lying. If Clark is lying, he is either a Knave or a Normal. In either case, nobody would be a Knight. Since we know one of them must be a Knight, Bob cannot be a Normal. Therefore   
    
  **Clark is a truth-telling Normal, and Bob is the guilty Knight**