

Solution of Tutorial 07

October 2, 2010

solution: Let us consider the following propositional constants: a: Adams tells the truth, b: Brown tells the truth, c: Clark tells the truth. Since two innocent men are telling the truth, of the 8 interpretations, the set of possible ones are $\{(a, b, c) = \langle F, T, T \rangle, \langle T, F, T \rangle, \langle T, T, F \rangle, \langle T, T, T \rangle\}$. Adams' contention is in conflict with Brown's because Adams said, "... The victim was an old acquaintance of Brown's ...", whereas Brown said, "... I didn't even know the guy...". So the interpretations $\langle T, T, F \rangle$ and $\langle T, T, T \rangle$ are ruled out. Similarly, Brown's contention "... I didn't even know the guy..." is in conflict with Clark's "I saw both Adams and Brown downtown with the victim that day". So the interpretation $\langle F, T, T \rangle$ is also ruled out. Thus, we are left with only one interpretation $\langle T, F, T \rangle$. Under this interpretation, all the statements made by Adams and those made by Clark are true and that creates no conflict with each other. Thus, it's Brown who is lying and hence is the murderer.