

Translate and Test for Validity

Translate the following arguments into PL and test them for validity using the truth-tree method. **Check your answers** (some) after you're done.

1. Either Sue is tired or if Jude is hungry, then Owen is at home. But Sue isn't tired and Owen is not at home. Therefore Jude is not hungry.
2. Either Sue is tired or Jude is hungry, if Owen is at home. But Sue isn't tired and Owen is not at home. Therefore Jude is not hungry.
3. If Elfride is lonely then Stephen will appear. If Stephen will appear, then Oak will stop the fire. Therefore, if Oak will not stop the fire, Elfride is not lonely.
4. Elfride is lonely only if Stephen will appear. If Stephen will appear, then Oak will stop the fire. Therefore, Oak will stop the fire, if Elfride is lonely.
5. Neither Jude nor Sue want to get married. But Sue will eat tomatoes just in case Oak visits. Therefore Oak visits unless Jude does not not want to get married.
6. A sufficient condition for Cytherea to get mad is Manston asking for her hand in marriage. Manston will ask Cytherea's hand in marriage if either Miss Aldclyffe requests it or Owen remains ill. If Owen does not remain ill, Cytherea will get mad. Therefore Miss Aldclyffe does not request that Manston asks for Cytherea's hand in marriage.
7. Mr. Swancourt is hungry only if Elfride isn't. Either Elfride is hungry or Knight is lurking. But knight isn't lurking. Therefore Mr. Swancourt isn't hungry.
8. Oak loses his sheep if his dog either chases them or the bank will repossess them. But the bank will repossess them only if Oak fails to pay his bills. Bethsheba will see to it that the fields are well cared for if Oak does not lose his sheep. So the bank will repossess the sheep if Oak's dog doesn't chase them.
9. If both Oak is at home and Bethsheba is in the field, then Jude is studying Latin. But neither is Jude studying Latin nor is Stephen eating raw eggs. Therefore Bethsheba is in the field.
10. Manston works for Miss Aldclyffe and is not related to Owen. Cytherea is related to Owen but not to Manston or Miss Aldclyffe. Miss Aldclyffe will be happy just in case Cytherea is related to Manston. Therefore Miss Aldclyffe will not be happy.