

5.32

Consider Set all the variables to False.

Construct a directed graph.

Each variable is a node. For each implication

clause there is a directed edge from w to x .

$$(x \wedge y \wedge z) \Rightarrow w$$

w to y
and w to z .

Initial True List consist of ^{variable occurring in} ~~the~~ clause of the form

$\Rightarrow x$.

Starting from the True List, add all nodes ^{point to True} ~~can reach~~ ~~nodes~~

~~node~~ ~~from~~ ^{being true} ~~to~~ nodes. Set all those nodes to True.

~~If~~ With variable in true list and false list,

if all the negated clauses are satisfiable,

the horn clause it is satisfiable else it is

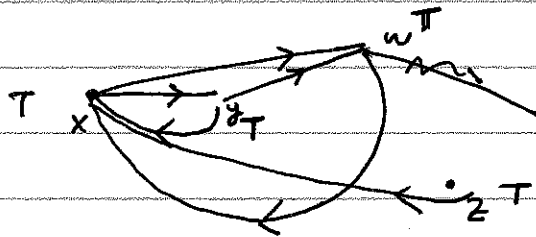
not satisfiable.

E.g. in ^{prob} 152

$$(w \wedge y \wedge z) \Rightarrow x, (x \wedge y) \Rightarrow w, x \Rightarrow y, \Rightarrow x,$$

$$(x \wedge y) \Rightarrow w, (\bar{w} \vee \bar{x} \vee \bar{y}); \bar{z}$$

True list x



hence

\bar{z} is unsatisfied.