

ASSIGNMENT No. 5

Q.1 function CHECK-TRUE(s) return true or false
inputs S, a statement in propositional logic

Symbols \leftarrow a list of proposition symbols in S.
return TT-CHECK-ALL(S, symbols, $\{ \}$)

function TT-CHECK-ALL(S, symbols, model) return true
or false

if EMPTY?(symbols) then
return PL-TRUE?(S, model)

else

return true

else do

p \leftarrow FIRST(symbols)

rest \leftarrow REST(symbols)

return TT-CHECK-ALL(S, rest, model \cup {p = true})
and TT-CHECK-ALL(S, rest, model \cup {p = false})

function PL-TRUE(S, m) return true or false

if S = True then return true

else if S = false then return false

else if SYMBOL?(S) then return LOOKUP(S, m)

else branch on the operator of S

\neg : return not PL-TRUE?(ARG1(S), m)

\vee : return PL-TRUE?(ARG1(S), m) OR PL-TRUE?(ARG2(S), m)

Q.1

\wedge : return PL-TRUE?(ARG1(s),m) and PL-TRUE?(ARG2(s),n)

\neq : return (not PL-TRUE?(ARG1(s),n) or PL-TRUE?(ARG2(s),n))

\Leftrightarrow : return (PL-TRUE?(ARG1(s),m) iff (PL-TRUE?(ARG2(s),n))