

Proof – Q5 [Problem/E](4/10/21)

Suppose that a half price offer applies at selected stores of a supermarket for customers with loyalty cards.

H is "Half price offer applies"

S is "Customer shops at a selected store"

L is "Customer has a loyalty card"

Place the following statements into equivalent groups. Which ones are true?

$H \Rightarrow S$

$H \Leftarrow S$

" H is a necessary condition for S "

" S is a necessary condition for H "

" H is a sufficient condition for S "

" S is a sufficient condition for H "

" H is only true if S is true"

" S is only true if H is true"

Solution

$H \Rightarrow S$ (true)

" S is a necessary condition for H "

" H is a sufficient condition for S "

" H is only true if S is true"

$H \Leftarrow S$ (false)

" H is a necessary condition for S "

" S is a sufficient condition for H "

" S is only true if H is true"