

COURSE : DISCRETE MATHEMATICS
SOLVING_STUDENT_ID : 1705058
VERIFYING_STUDENT_ID : 1705088
Problem Ex. no : 01

Question:

Translate the given statement into propositional logic using the propositions provided.

“You cannot edit a protected Wikipedia entry unless you are an administrator.”
Express your answer in terms of e : “You can edit a protected Wikipedia entry” and a : “You are an administrator.”

Answer:

Let, p is “You cannot edit a protected Wikipedia entry” and q is “you are not an administrator”.

So, the given proposition is in the form “ p unless $\sim q$ ”. It can be rewritten as “ $q \rightarrow p$ ”. Here, p is $\sim e$ and q is $\sim a$.

Then the proposition becomes “ $\sim a \rightarrow \sim e$ ” which can also be expressed as its contrapositive equivalent “ $e \rightarrow a$ ” as these two have the same truth value.

So, the required propositional logic is “ $e \rightarrow a$ ”.