Quick Check: Propositional Logic

YOUR NAME HERE *

Tuesday 4th April, 2023

TIPS:

1. Use \begin{question} to start a new question. The next question will start on a new page!
2. Use \begin{part} inside your questions to create sub-questions like (a), (b), (c), etc...
3. Use \begin{enumerate}[label=\roman*)] to create sub-sub-questions like i), ii), iii), etc...
4. Use \begin{answer} to box your answers.

Question 0: Propositional Logic

Consider the sentence: "I do not eat pizza, or I buy groceries, or if I buy groceries then I eat pizza."

(a) Define two atomic propositions. Then use the propositions to translate the sentence into logical notation.

P = I eat pizza
Q = I buy groceries
$(\neg P \vee Q) \vee (P \rightarrow Q)$

(b) Use a truth table to show that the sentence is always true.

P	Q	$\neg$ P	$\neg$ P $\vee$ Q	Q $\rightarrow$ P	$(\neg P \vee Q) \vee (Q \rightarrow P)$
T	F	F	F	T	T
T	T	F	T	T	T
F	F	T	T	T	T
F	T	T	T	F	T

*Collaborators: List collaborators here or delete if none

Question 1: Video Solution

(a) What is one thing you took away from the video solution?

The steps to break down a complex statement so it is more manageable

(b) What topic from the quick check or lecture would you most like to review in workshop?

What the end True/False of a complex statement means? It took me a little time to understand that "true" meant the person will always have an umbrella in the right conditions.