LaTex Help by Example

The "LaTex Help by Example" items will help you LaTexing your homework. If you have to do something similar when your LaTexing your homework, just compare the Example LaTex code to the complied output.

How to construct a simple table.

The (Table of) Contents for Overleaf's Tables help has section 1–10 listed. Read Sections

1. Introduction
2. Creating a simple table in LaTeX

for this help at the below link:

Overleaf's Tables Help.

Upon reading these first two sections, you will have down the basics of making a table, e.g., how to make a Truth Table.

Just a word of warning. If you table is vertically too long to fit on the rest of the page, then type in your .tex file:

```
\vfill
\eject
```

The vfill stands for vertially fill the paper with blank space while the eject stand for eject to the next pagee. This will take your PDF file to a new page.

Now let's do some examples from class, which is on the **next page**. Look at the tex code to see how we got the new page.

Exercise 2.1.7. Contruct a truth table for $P \wedge (Q \vee R)$ and $(P \wedge Q) \vee (P \wedge R)$, as usual all in one big truth table. What do you observe?

			(a)	(b)	(c)	(d)	(e)
P	Q	R	$Q \vee R$	$P \wedge (Q \vee R)$	$P \wedge Q$	$P \wedge R$	$(P \wedge Q) \vee (P \wedge R)$
T	T	T	T	T	T	T	T
T	T	F	T	T	T	F	T
T	F	T	T	T	F	T	T
T	F	F	F	F	F	F	F
F	T	T	T	F	F	F	F
F	T	F	T	F	F	F	F
F	F	T	T	F	F	F	F
F	F	F	F	F	F	F	F

We notice that the (compound) statements $P \wedge (Q \vee R)$ and $(P \wedge Q) \vee (P \wedge R)$ have the same truth value for all possible combinations of truth values for each atom appearing in the two compund statements since columns (b) and (e) are the same.

Remark. In Section 2.2 we learned that we can slso conclude that the statments $P \wedge (Q \vee R)$ and $(P \wedge Q) \vee (P \wedge R)$ are logically equivalent since the column for $P \wedge (Q \vee R)$, namely column (b), is the same as the column for $(P \wedge Q) \vee (P \wedge R)$, namely column (e).