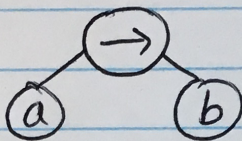


Examples of well-formed formulas

Sept 12, 2017

(a) $\neg a$ Not well-formed. ($\neg a$)

(b) $(a \rightarrow b)$ well-formed.



(c) $(a \wedge b \wedge c)$ Not well-formed.

2 possible fixes: $(a \wedge b) \wedge c$ or $a \wedge (b \wedge c)$

These two are logically equivalent.

(d) $(a \rightarrow b \rightarrow c)$ Not well-formed.

2 possible fixes: $(a \rightarrow b) \rightarrow c$ or $a \rightarrow (b \rightarrow c)$

These are NOT logically equivalent.

If $a \equiv F$, $b \equiv T$, $c \equiv F$, then

$(a \rightarrow b) \rightarrow c$ is false whereas $a \rightarrow (b \rightarrow c)$ is true.

(e) $(a \vee b \wedge c)$ Not well-formed.

2 possible fixes: $(a \vee b) \wedge c$ or $a \vee (b \wedge c)$

These are NOT logically equivalent.

If $a \equiv T$, $b \equiv F$, $c \equiv F$, then

$(a \vee b) \wedge c$ is false whereas $a \vee (b \wedge c)$ is true.