

\rightarrow World $\{ \}$ $w \models \alpha$ \leftarrow α holds at w ,
 \rightarrow Truth Assignment $\} \quad w$ satisfies α .

Example

		Position
Robots		R
Dirt		D

Left L
Right R

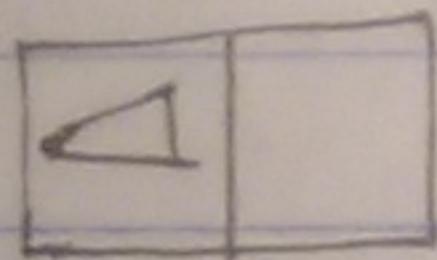
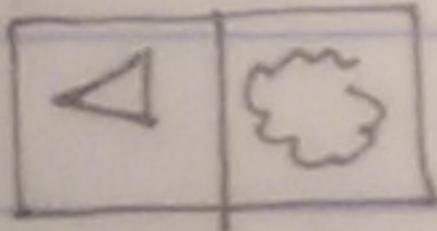
Propositional Variables

LR RR
LD RD

Knowledge Base

- $\Delta \{ \beta_1 \quad LR \vee RR$
 $\beta_2 \quad \neg(LR \wedge RR)$
 $\beta_3 \quad (LR \Rightarrow \neg LD) \wedge (RR \Rightarrow \neg RD)$
 $\beta_4 \quad LR$
 $\beta_5 \quad \neg LD$

Δ satisfies



From the 2^4 possible worlds, the top two are only satisfied worlds.

Meaning of Sentence α :

$$M(\alpha) = \{ w : w \models \alpha \}$$

Note: there may be many knowledge bases (syntax) that correspond to the same meaning (semantics)!