

hw5

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Q 7.2

我们以**真值表**的形式列举所有可能世界的集合，并把满足KB为真以及 α_2 和 α_3 的世界标识出来。

Model/World	KB	α_2	α_3
\emptyset		T	
$P_{1,3}$		T	
$P_{2,2}$			
$P_{3,1}$		T	
$P_{1,3}, P_{2,2}$			
$P_{1,3}, P_{3,1}$		T	
$P_{2,2}, P_{3,1}$			
$P_{1,3}, P_{2,2}, P_{3,1}$			
$W_{1,3}$		T	T
$W_{1,3}, P_{1,3}$		T	T
$W_{1,3}, P_{2,2}$			T
$W_{1,3}, P_{3,1}$	T	T	T
$W_{1,3}, P_{1,3}, P_{2,2}$			T
$W_{1,3}, P_{1,3}, P_{3,1}$		T	T
$W_{1,3}, P_{2,2}, P_{3,1}$			T
$W_{1,3}, P_{1,3}, P_{2,2}, P_{3,1}$			T
$W_{2,2}$		T	
$W_{2,2}, P_{1,3}$		T	
$W_{2,2}, P_{2,2}$			
$W_{2,2}, P_{3,1}$		T	
$W_{2,2}, P_{1,3}, P_{2,2}$			
$W_{2,2}, P_{1,3}, P_{3,1}$		T	
$W_{2,2}, P_{2,2}, P_{3,1}$			
$W_{2,2}, P_{1,3}, P_{2,2}, P_{3,1}$			
$W_{3,1}$		T	
$W_{3,1}, P_{1,3}$		T	
$W_{3,1}, P_{2,2}$			
$W_{3,1}, P_{3,1}$		T	
$W_{3,1}, P_{1,3}, P_{2,2}$			
$W_{3,1}, P_{1,3}, P_{3,1}$		T	
$W_{3,1}, P_{2,2}, P_{3,1}$			
$W_{3,1}, P_{1,3}, P_{2,2}, P_{3,1}$			

可以看到，所有使得 KB 为True的模型都能够使得 α_2 为真，从而可以得到 $KB \models \alpha_2$ ；
所有使得 KB 为True的模型都能够使得 α_3 为真，从而可以得到 $KB \models \alpha_3$ ； 证毕。