

1. 沿用课件中的编码

$s_0 (0, 0)$

$s_1 (0, 1)$

$s_2 (1, 0)$

$s_3 (1, 1)$

迭代规则: $t_{n+1} := t_n \cap \{s \in S_\phi \mid \exists t \in t_n: s \rightarrow t\}$

$$S_\phi = \{s_0, s_1, s_2\}$$

$$t_0 = \text{ROBDD}(T)$$

$$t_1 = \{s_0, s_2\}$$



s_0 后继有 s_0, s_1, s_2

s_2 后继有 s_1, s_3

$$\text{取交集得 } \{s \in S_\phi \mid \exists t \in t_1: s \rightarrow t\} = \{s_0\}$$

$$\text{故 } t_2 = \{s_0\}$$

$$\text{同上理, } \{s \in S_\phi \mid \exists t \in t_2: s \rightarrow t\} = \{s_0\}$$

$$\text{故 } t_3 = \{s_0\}$$

2. 利用 ROBDD, 验证 $\mathcal{M}, s_0 \models EG p$

沿用之前的编码

s_0

$(0, 0)$

SUCCESSOR

s_0, s_1, s_2

$\neg p$

S_1 $(0, 1)$

S_3

$\neg p$

S_2 $(1, 0)$

S_1, S_3

$\neg p$

S_3 $(1, 1)$

S_0

p

$$S_p = \{S_3\} = \{(1, 1)\}, \quad t_0 = \text{ROBDD}(S_p)$$

考虑 S_3 后继 S_0 , 但 $S_0 \notin t_0$

$$\{s \in S_p \mid \exists t \in t_0 : s \rightarrow t\} = \emptyset$$

$$\text{故 } t_1 = t_0 \cap \{s \in S_p \mid \exists t \in t_0 : s \rightarrow t\} = \emptyset$$

第2次迭代时, 无可考虑的后继元素

$$\text{故 } t_2 = t_1 = \emptyset$$

$$S_{EG_p} = \emptyset$$

$$\text{故 } M, S_0 \not\models EG_p$$