

	$\neg P_1 \vee P_2$	$\neg P_3 \vee P_4$	$\neg P_5 \vee \neg P_6$	$P_6 \vee \neg P_5 \vee \neg P_2$	$P_5 \vee P_7$	$P_5 \vee \neg P_3 \vee \neg P_2$	Comments
ϕ							Decide
P_1^d	unit						Unit Prop
$P_1^d P_2$	1						Decide
$P_1^d P_2 P_3^d$	1	unit					Unit Prop
$P_1^d P_2 P_3^d P_4$	1	1					Decide
$P_1^d P_2 P_3^d P_4 P_5^d$	1	1	unit	unit	1	1	Unit Prop
$P_1^d P_2 P_3^d P_4 P_5^d \neg P_6$	1	1	1	0	1	1	Backtrack
$P_1^d P_2 P_3^d P_4 \neg P_5$	1	1	1	1	unit	unit	Unit Prop
$P_1^d P_2 P_3^d P_4 \neg P_5 P_7$	1	1	1	1	1	0	Backtrack
$P_1^d P_2 P_3^d P_4 \neg P_5 \neg P_7$	1	1	1	1	1	0	Decide
$P_1^d P_2 \neg P_3$	1	1					Unit Prop
$P_1^d P_2 \neg P_3 P_5^d$	1	1	unit	unit	1	1	Unit Prop
$P_1^d P_2 \neg P_3 P_5^d \neg P_6$	1	1	1	0	1	1	Backtrack
$P_1^d P_2 \neg P_3 P_5^d \neg P_6 P_7$	1	1	1	1	unit	unit	Unit Prop
$P_1^d P_2 \neg P_3 \neg P_5$	1	1	1	1	1	0	Backtrack
$P_1^d P_2 \neg P_3 \neg P_5 P_7$	1	1	1	1	1	0	Decide
$\neg P_1 P_3^d$	1	unit					Unit Prop
$\neg P_1 P_3^d P_4$	1	1					Decide
$\neg P_1 P_3^d P_4 P_5^d$	1	1	unit	unit	1	1	Unit Prop
$\neg P_1 P_3^d P_4 P_5^d \neg P_6$	1	1	1	0	1	1	Backtrack
$\neg P_1 P_3^d P_4 \neg P_5$	1	1	1	1	unit		Unit Prop
$\neg P_1 P_3^d P_4 \neg P_5 P_7$	1	1	1	1	1	unit	Unit Prop
$\neg P_1 P_3^d P_4 \neg P_5 \neg P_7$	1	1	1	1	1	1	Unit Prop

Satisfiable

model: $\mathcal{A}: \Pi \rightarrow \{0,1\}$ with
 $\mathcal{A}(P_1) = \mathcal{A}(P_5) = \mathcal{A}(P_2) = 0$
 $\mathcal{A}(P_3) = \mathcal{A}(P_4) = \mathcal{A}(P_7) = 1$

	$1P_1 \vee P_2$	$2P_3 \vee P_4$	$3P_5 \vee P_6$	$P_6 \vee P_5 \vee P_2$	$P_5 \vee P_7$	$P_5 \vee P_7 \vee P_2$	
\emptyset							Decide
P_1^d	unit						u.p.
$P_1^d P_2$	1						Decide
$P_1^d P_2 P_3$	1	unit					u.p.
$P_1^d P_2 P_3 P_4$	1	1					Decide
$P_1^d P_2 P_3 P_4 P_5$	1	1	unit	unit	1	1	u.p.
$P_1^d P_2 P_3 P_4 P_5 P_6$	1	1	1	0	1	1	
$- 1 - 2 - 3$				↓ conflict.			

Analyze conflict:

$P_6 \vee P_5 \vee P_2$ 3: $P_5 \vee P_6$
 $P_5 \vee P_2$

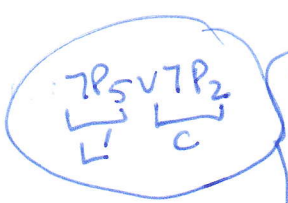
P_2 true before the last decision.

Backjump

$M, L^d, N \parallel F \Rightarrow M, L' \parallel F$

- if { there is some clause $C \in L'$ s.t.:
- $F \models C \vee L'$
 - $M \models C$
 - L' undefined in M
 - L' or $\neg L'$ occurs in F

choose: $\underbrace{P_1^d P_2}_M, \underbrace{P_3 P_4 P_5 P_6}_L \parallel F \Rightarrow P_1^d P_2 P_5 \parallel F$



- $F \models C \vee L'$
- $M \models C$ (M $\models P_2$!)
- P_5 undefined in M .
- P_5 or $\neg P_5$ occurs in F

P_1^d	P_2	TP_5						Backjump.
1	1	1	1	1	unit	unit	unit	u.p.
P_1^d	P_2	TP_5	P_7					
1		1	1	1	1	0		
-	1	cr.	5					
<u>etc.</u>								

$P_1^d - P_2 - TP_5 - P_7$
 $P_1^d - P_2 - TP_5 - P_7$