## Liniar Resolution

## Theoretical Result

- o Soundness and completeness theorem:

   the set 5 of clauses is inconsistent if and only if

  5 |- Row lim □
- The bookstrocking algorithm is the strategy provided at the implementation level

- the algorithm stops in a cases:

1. The empty clause was decived => 5 is incomsistent

2. For the top clause all possible side clauses were used, but the ompty clause was mod derived = 5 is commistent

Exercise 5.2: Prove the comprehency of the following set of clauses using linear resolution: \pvgvx, 7pvg, 7pvgg

$$C_n = pvqvx$$
 $C_a = \neg pvq$ 
 $C_3 = \neg pv \neg q$ 

Take Cr as the top dause

$$C_{\Lambda} = PVQV\Lambda$$

$$C_{\Delta} = TPVQ$$

$$C_{\Delta} = TPVQ$$

$$C_{\Delta} = TPVQ$$

$$C_{\Delta} = TPVQ$$

$$C_{\Delta} = TPVQQ$$

$$C_{\Delta} = TPVQQ$$

$$C_{\Delta} = TPVQQ$$

$$C_{\Delta} = TPVQQ$$

$$C_{\Delta} = TPVQQQ$$

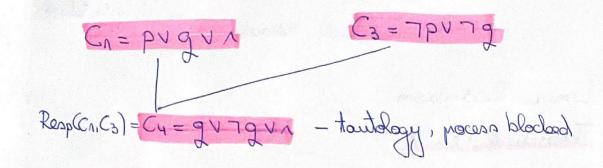
$$C_{\Delta} = TPVQQQ$$

$$C_{\Delta} = PVQQQQ$$

$$C_{\Delta} = PVQQQQ$$

$$C_{\Delta} = PVQQQQ$$

$$C_{\Delta} = PVQQQQ$$



Resg(Cn,C3) = C4 = PUZPUN - Houtdogy, Mocess blocked

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