Improving Reasoning on DQBF

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DQBF Reasoning

DQBF Formula
\[ \forall x, y \exists a(x) b(x, y) : (x \lor \neg y \lor \neg a) \land (\neg x \lor a \lor b) \land (y \lor b) \]
Preprocessing

1. **Autarkies**: assign existential variables such that corresponding clauses becomes true. $F' = F \setminus \{C_i\}$.

2. **Symmetry**: prevent a solver from needlessly exploring equivalent parts of a search space. $F' = F \land \Phi$. 

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**Diagram:**

- **DQBF Formula $F$**
- **Preprocessor**
- **Formula $F'$**
- **DQBF solver**
- **True?**