

## Schematic operators: quantification



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operators

Schemata

PDDL

Existential quantification (for formulae only) Finite disjunctions  $\varphi(a_1) \lor \cdots \lor \varphi(a_n)$  represented as  $\exists x \in \{a_1, \dots, a_n\} : \varphi(x).$ 

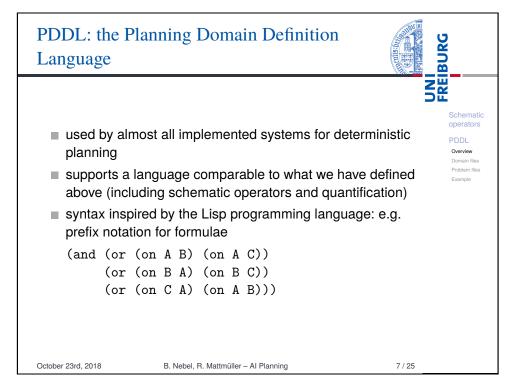
Universal quantification (for formulae and effects) Finite conjunctions  $\varphi(a_1) \land \cdots \land \varphi(a_n)$  represented as  $\forall x \in \{a_1, \dots, a_n\} : \varphi(x).$ 

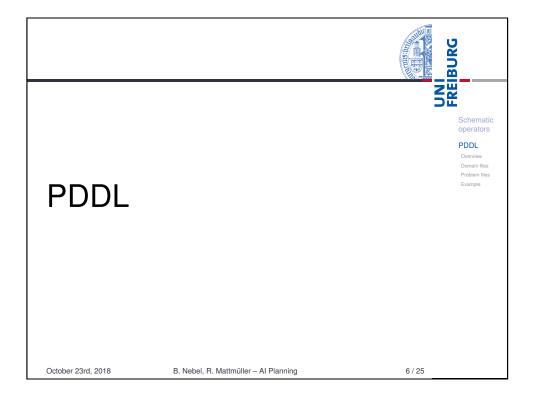
## Example

 $\exists x \in \{A, B, C\}$ : *in*(x, Freiburg) is a short-hand for *in*(A, Freiburg)  $\lor$  *in*(B, Freiburg)  $\lor$  *in*(C, Freiburg).

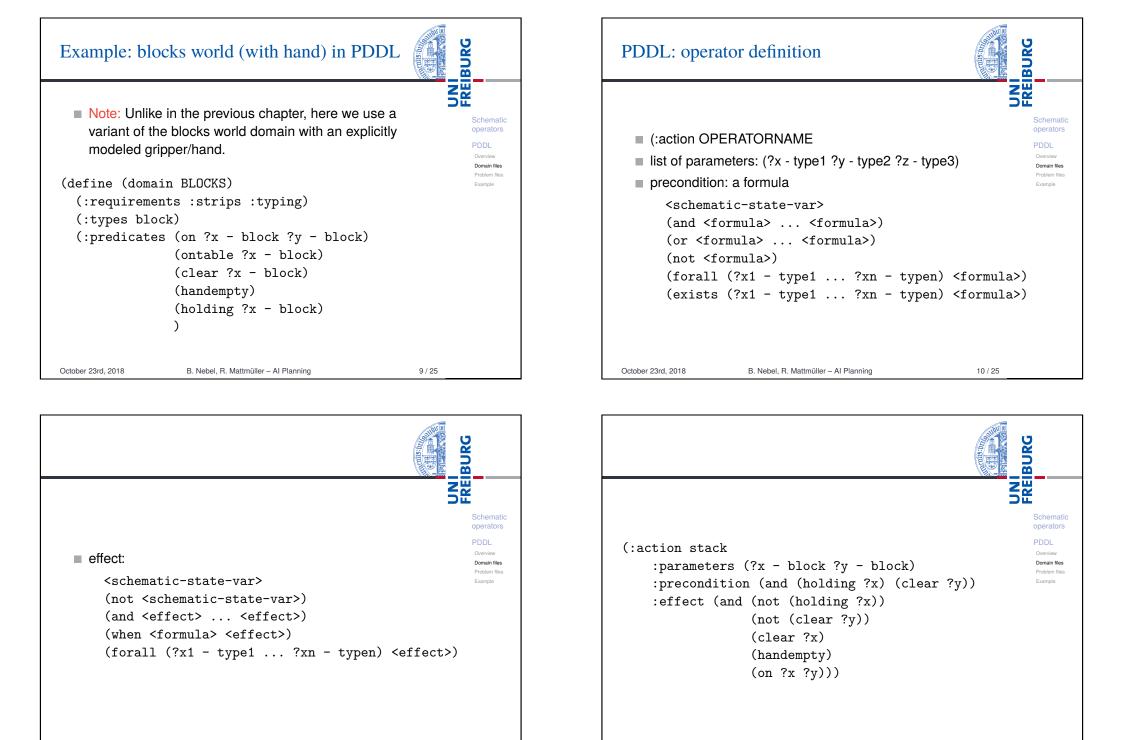
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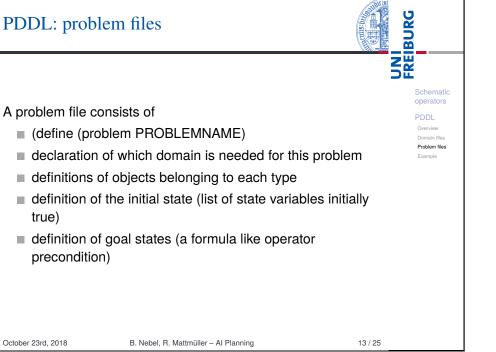
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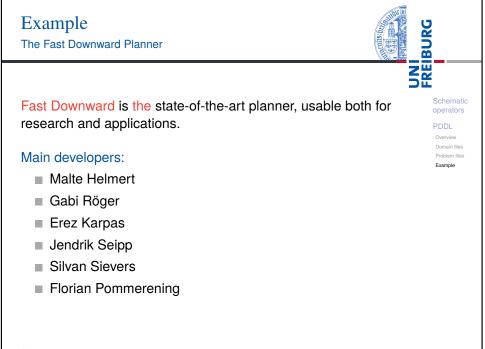
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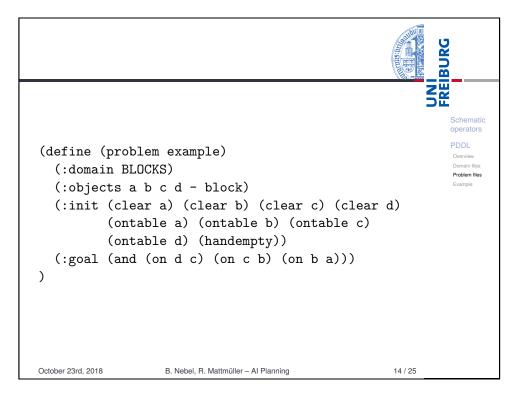
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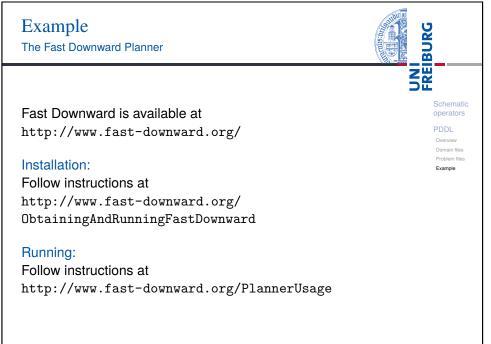
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## PDDL: problem files









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