Localization 1: Dudek-Romanik-Whitesides Localization

Hypothesis generation

Possible states

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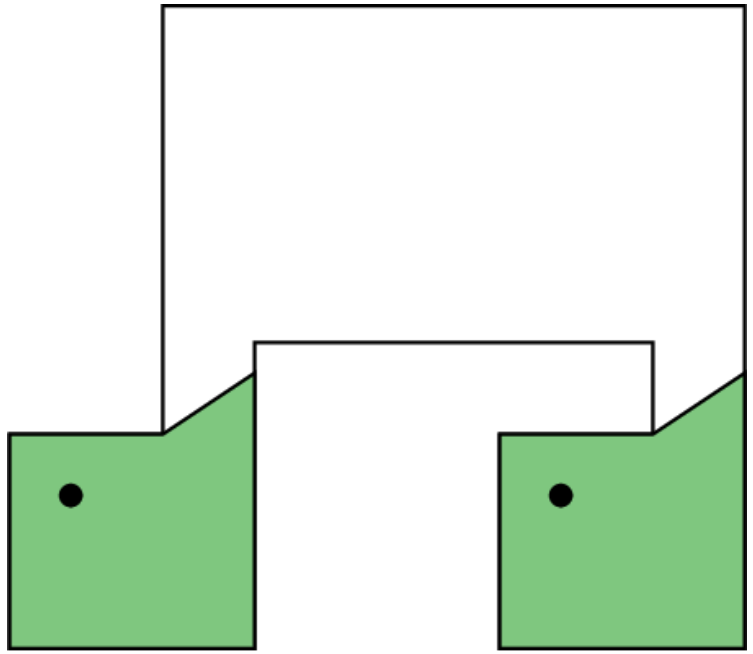

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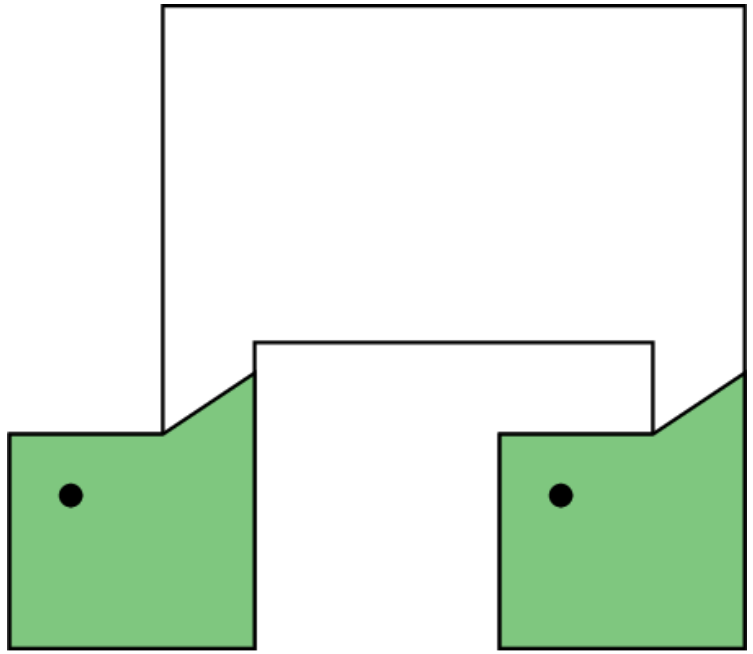

The process of computing this initial set is called **hypothesis generation.**

Hypothesis generation: Good algorithms exist

Input:

- Environment polygon. (n vertices)
- Visibility polygon. (m vertices)

Output:

- Set of states in this environment that have this visibility polygon.

Algorithms are known to solve this problem in $O(mn)$ time.

Hypothesis generation: Good algorithms exist

How many hypotheses can there be in the worst case?