

An Algorithm for Stage Semantics

Martin Caminada

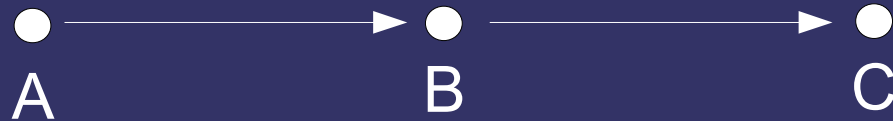
University of Luxembourg

Stage Semantics

A stage extension is a conflict-free set Args
where $\text{Args} \cup \text{Args}^+$ is maximal

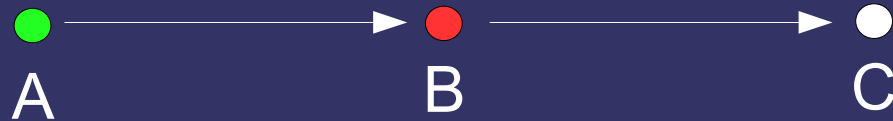
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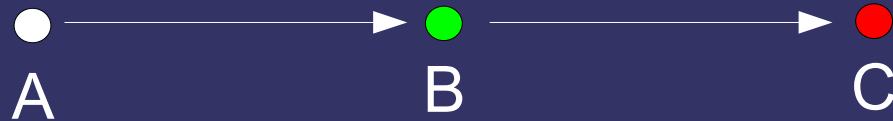
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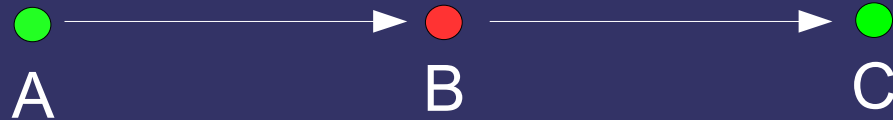
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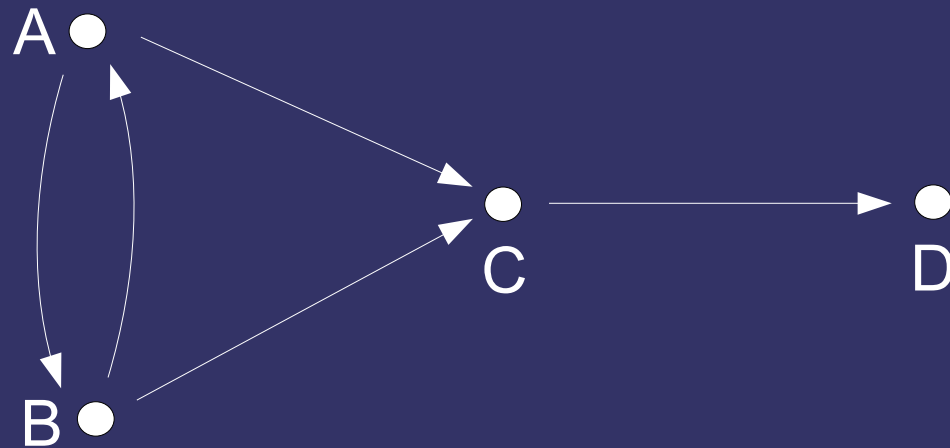
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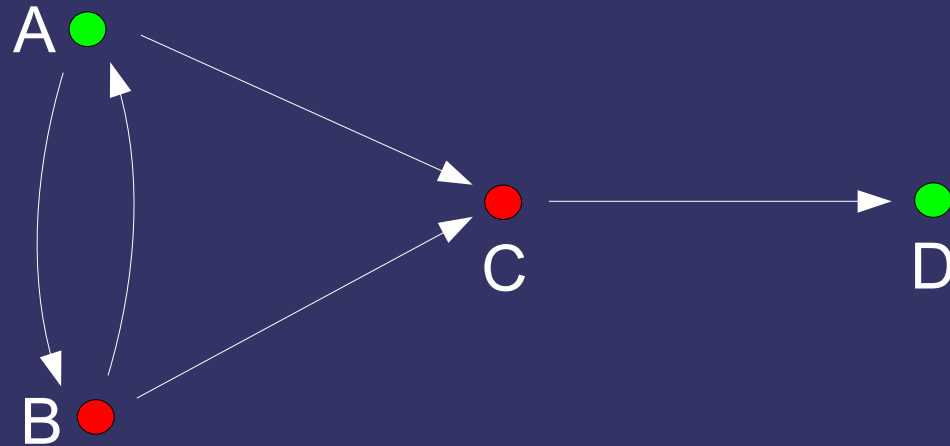
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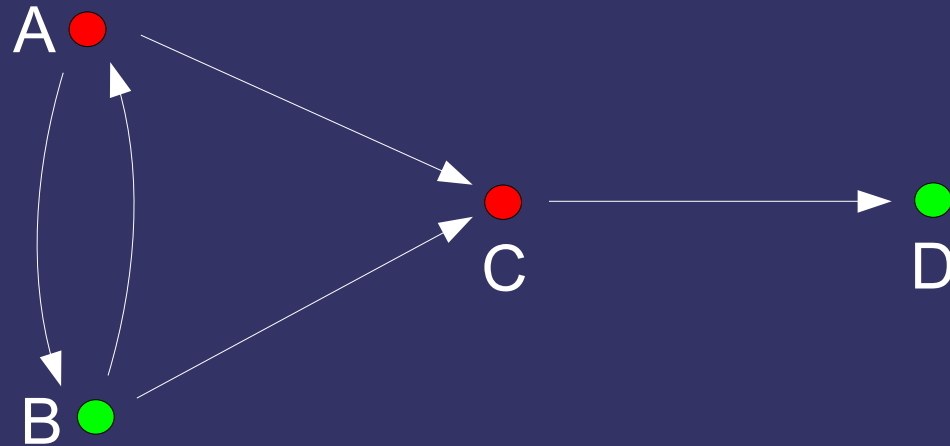
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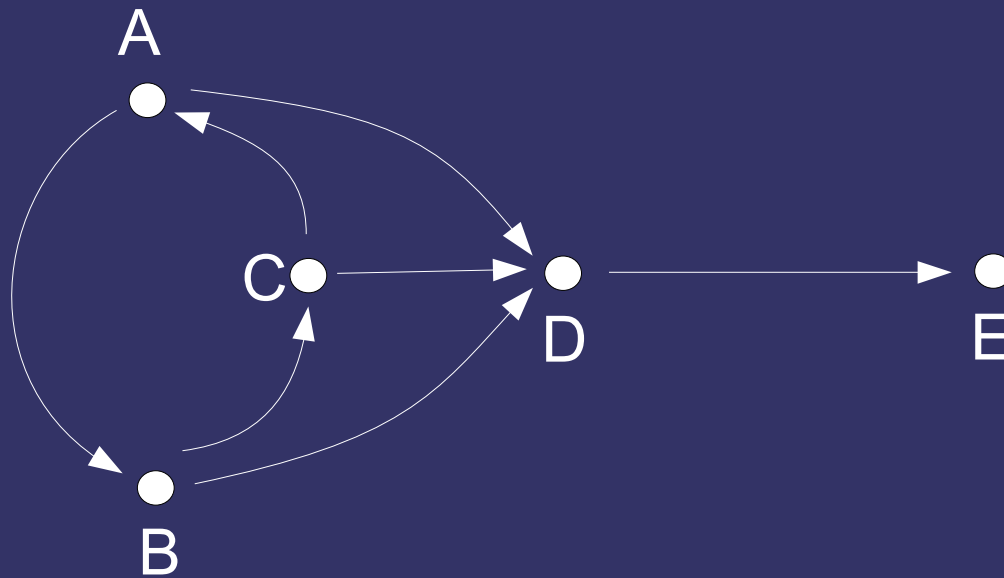
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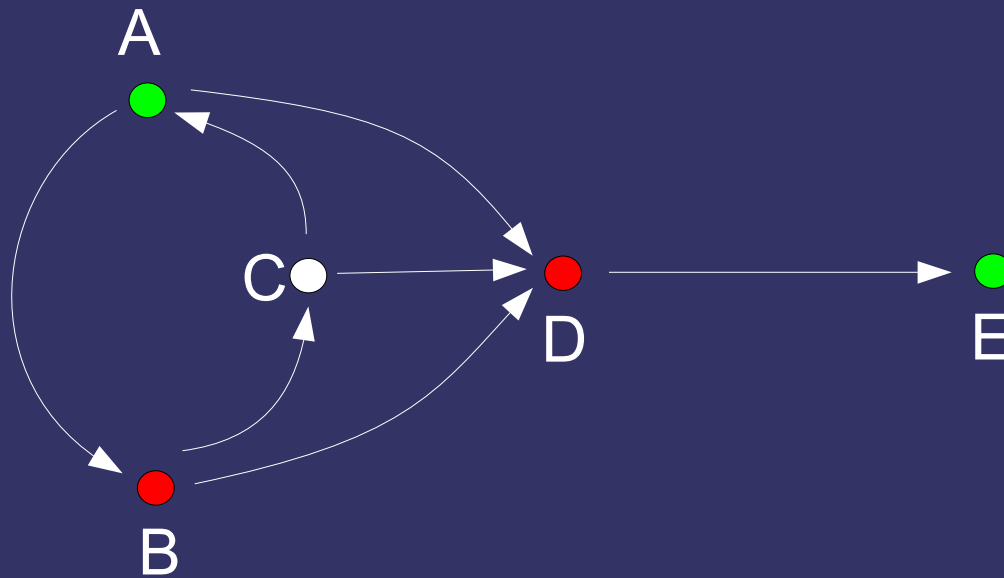
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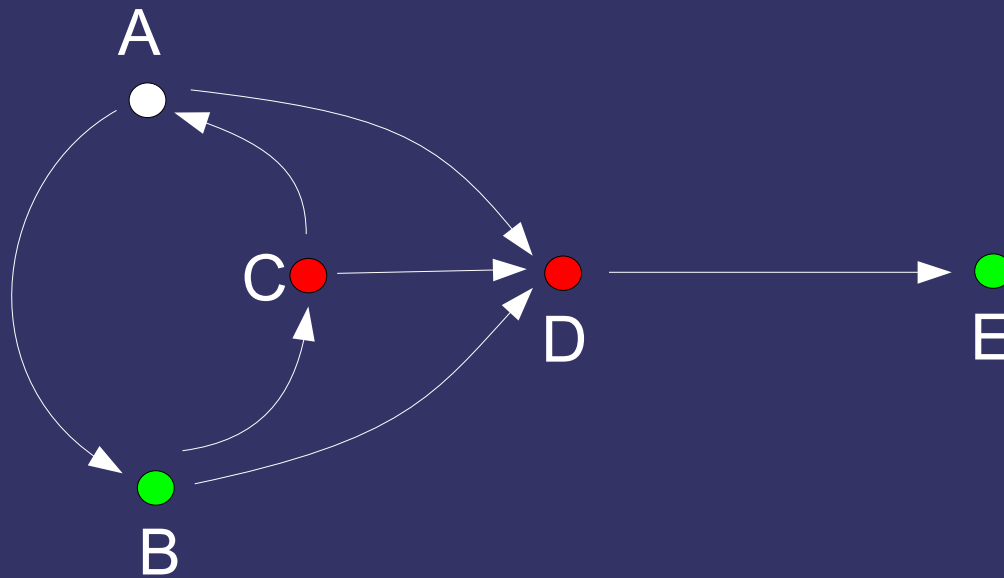
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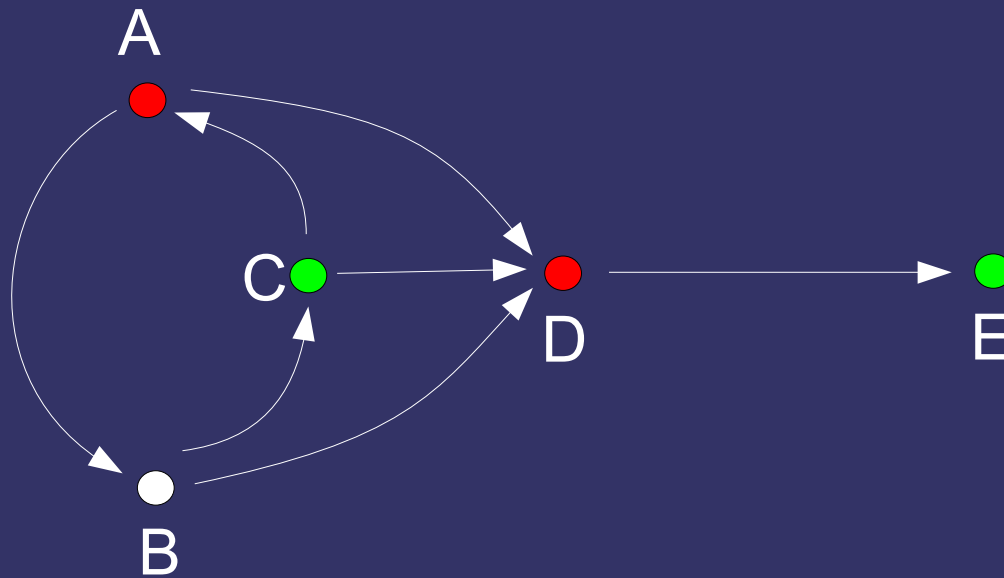
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Every stable extension
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Every stable extension
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If there exists a stable extension then
every stage extension is also a stable extension

Stage Semantics

AF' is a subframework of AF iff it is the result of removing some arguments from AF

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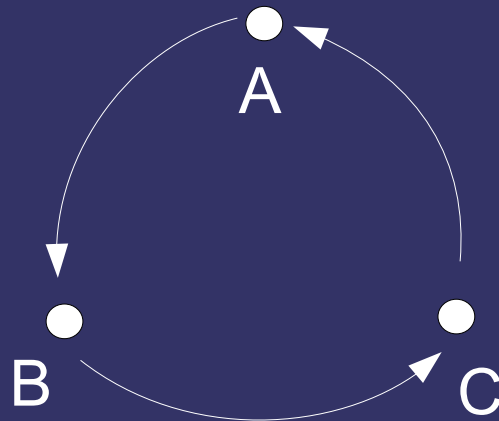
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THEOREM: Args is a stage extension iff Args is a stable extension of a maximal subframework that has at least one stable extension

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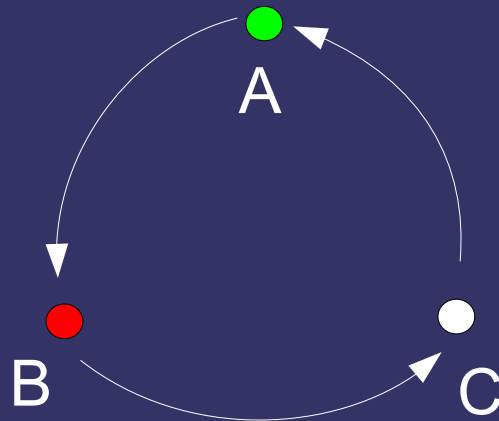
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The “No Models” problem

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When using a semantics that sometimes yields no models (extensions) there are two approaches:

- (1) apply the original semantics to maximal subsets of the original problem description
- (2) invent a new semantics that can deal with a wider range of problem descriptions

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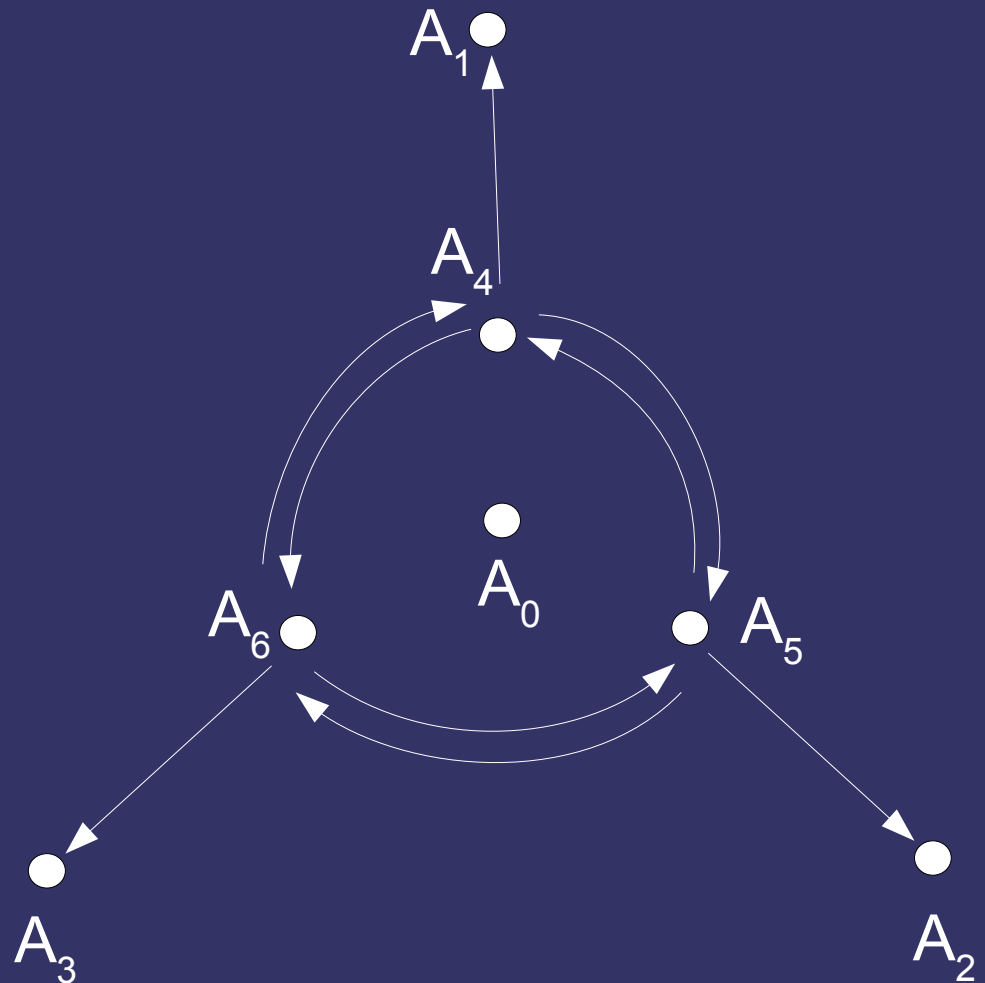
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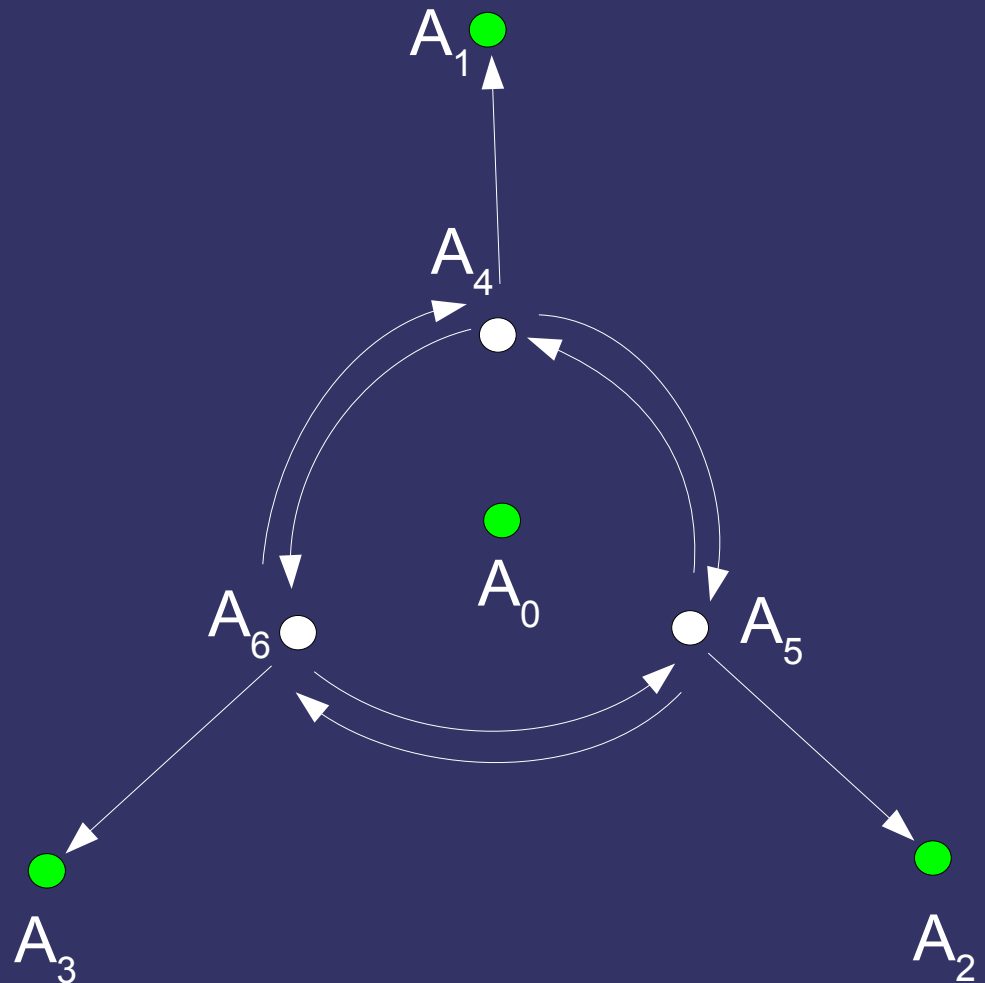
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Take Home Message (1/2)

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admissibility \Rightarrow consistency
(+ constructing the AF the right way) (Caminada & Amgoud, AIJ 2007)

conflict-freeness \Rightarrow \neg consistency
(+ constructing the AF the same way)

stage semantics \Rightarrow \neg consistency
(+ constructing the AF the same way)

other non-adm sem. (CF2) \Rightarrow ?consistency
(+ constructing the AF in any reasonable way)

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*Are there any reasonable instantiated
argumentation systems that our community's
abstract work (CF2, DefLog, ADF, ...)
provides an abstraction of?*

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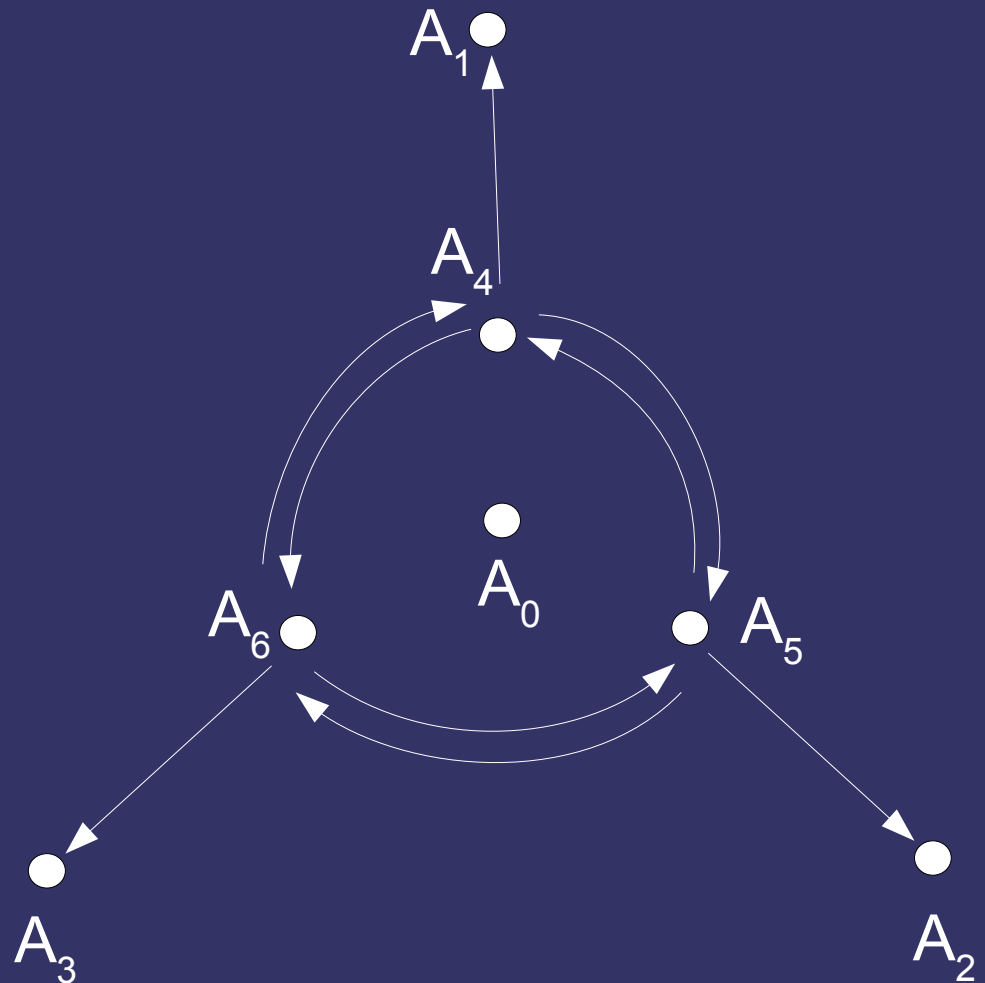
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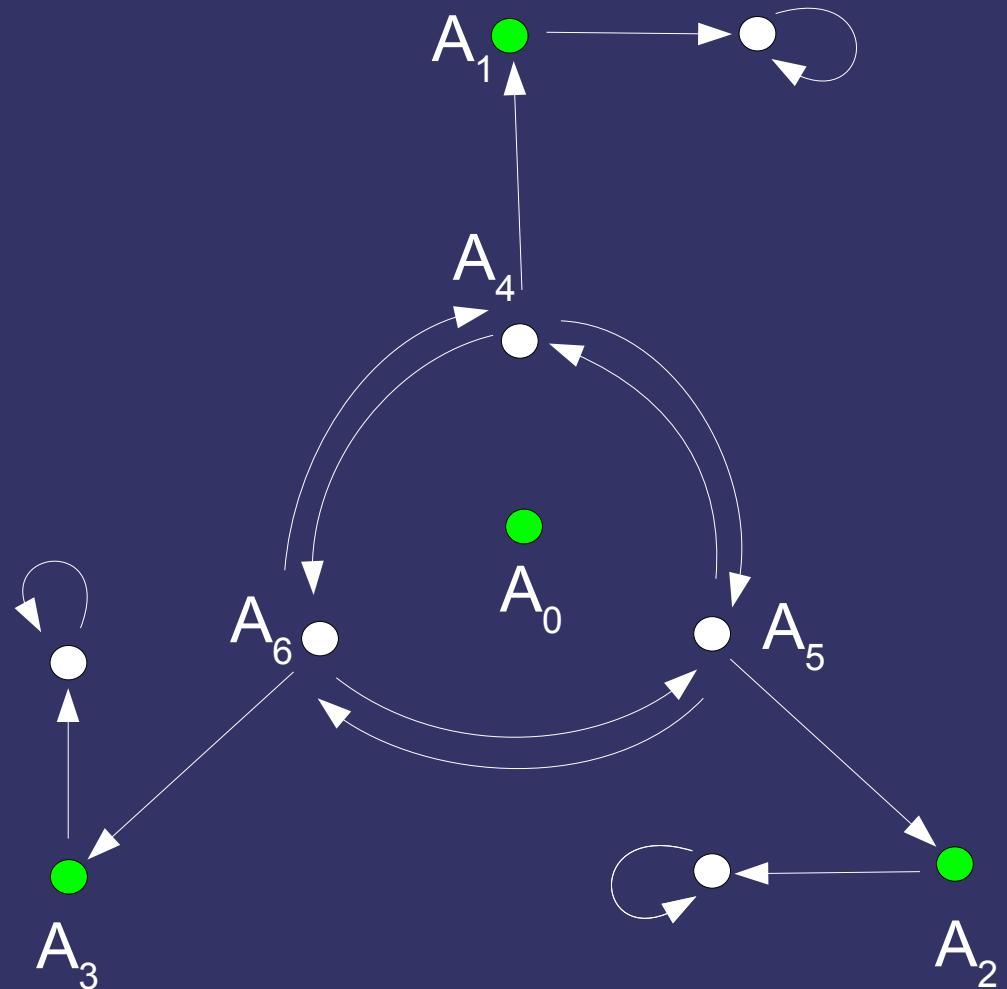
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