

# Logic for AI — Master 1 IFI

## Class Assignment #8: Argumentation

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### 1 Extensions

Determine the complete, grounded, and preferred extensions for the following argumentation frameworks (here,  $\rightarrow$  denotes the *attack* relation):

1.  $a \rightarrow b, b \rightarrow a$
2.  $a \rightarrow b, b \rightarrow a, b \rightarrow c$
3.  $a \rightarrow b, b \rightarrow a, b \rightarrow c, c \rightarrow d, d \rightarrow c$
4.  $a \rightarrow b, b \rightarrow c, c \rightarrow d, d \rightarrow e, e \rightarrow f, f \rightarrow e$
5.  $a \rightarrow b, b \rightarrow c, c \rightarrow d, d \rightarrow c$

### 2 Labelings

Determine the complete labelings for the same argumentation frameworks as in the previous exercise.