Logic for AI — Master 1 Informatique
Class Assignment #11: Belief Revision

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1 Belief Sets

Determine $Cn(K)$ for the following K:

1. $K = \{P, Q\}$;

2. $K = \{P \vee Q, P \vee \neg Q\}$.

2 Remainder Sets

The remainder set of belief set K by a sentence A, denoted $K \perp A$, is the set of all belief subsets of K that fail to imply A.

Compute $K \perp A$ for the following cases:

1. $K = \{P, Q\}$, $A = \{P \wedge Q\}$;

2. $K = \{P \vee R, P \vee \neg R, Q \vee S, Q \vee \neg S\}$, $A = P \wedge Q$.

3 AGM Postulates

1. Show that postulates (K*1) to (K*5) entail the following fact: if $A \in K$, then $K * A = K$.

2. Show that * is not commutative, i.e., there exist K, A, and B, such that $(K * A) * B \neq (K * B) * A$.