monotone class

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Definition. A collection $\mathcal{M}$ of subsets of Ω is a *monotone class* if it is closed under increasing and decreasing sequences of sets, i.e.

1. $A_1 \subseteq A_2 \subseteq A_3, \ldots \in \mathcal{M} \Rightarrow \bigcup A_n \in \mathcal{M}$

2. $A_1 \supseteq A_2 \supseteq A_3, \ldots \in \mathcal{M} \Rightarrow \bigcap A_n \in \mathcal{M}$