

$$A = a_n \rightarrow -\infty \quad \text{if} \quad \forall C < 0 \quad \exists v; n > v; a_n < C$$

$$\overline{A} = \exists C \geq 0 \quad \forall n; a_n \geq C$$

$$a_n \downarrow \implies \exists v; a_v \geq C; a_{v+1} < C$$

$$\implies \forall n > v \quad a_n < C \implies \text{conflict}$$

$$\implies a_n \rightarrow -\infty$$