

Iteration 1: $\max\{\boxed{-\text{inf}}, 1\}$

Iteration 2: $\rightarrow [\max\{\boxed{1}, 2\}, 5, 4, 8]$

Iteration 3: $\rightarrow [\max\{\boxed{2}, 5\}, 4, 8]$

Iteration 4: $\rightarrow [\max\{\boxed{5}, 4\}, 8]$

Iteration 5: $\rightarrow [\max\{\boxed{5}, 8\}]$

Final Output: $\rightarrow \boxed{8}$