Membership Processes: Exercises

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The Interval Portfolio Consider the membership process defined by the set of all intervals $[a, b] \subseteq \mathbb{R}$.

1. Compute $N(t)$ for $t = 1, 2, 3, 4$.

2. Find a general formula for $N(t)$.

3. Compare $N(t)$ to $\Phi(2, t)$.

Issue Extraction Suppose that p, q, r, and s are logical formulas that satisfy the assumptions $p \to q$, $\neg p \wedge q \to r$, and $\neg p \wedge \neg q \wedge \neg r \to s$.

1. Count the number of possible evaluations that these restrictions admit.

2. Determine the largest subset $F \subseteq \{p, q, r, s\}$ you can extract such that there are $2^{|F|}$ admissible evaluations of the formulas in F.

3. Find such a maximally uncertain set.