Verification: Homework 4

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- $[\![p]\!] = \{1, 2, 4, 5\}$
- $[\![EGp]\!] = \{1, 2, 4, 5\}$ respectively with paths $(12)^\omega, (21)^\omega, 45^\omega, 5^\omega$
- $[\![q]\!] = \{2, 3, 4\}$
- $[\![EXq]\!] = \{0, 1, 2, 3, 4\}$ respectively because $0 \to 3, 1 \to 2, 2 \to 3$ and $3 \leftrightarrow 4$
- $[\![AGEXq]\!] = \emptyset$ because 5 is reachable from every other states
- $[\![E((EGp)U(AGEXq)]\!] = \emptyset$ as a direct consequence.
- $[\![EXEGp]\!] = \{0, 1, 2, 3, 4, 5\}$ because $0 \to 3, 1 \leftrightarrow 2, 2 \to 3, 3 \leftrightarrow 4$ and $5 \to 5$
- $[\![A((EXEGp)Uq)]\!] = \{0, 1, 2, 3, 4\}$ because 5^ω never satisfies q.