

For the above Petri net:

(1): Find the rank r of the incidence matrix A , a largest nonsingular submatrix A_{12} , and its inverse $(A_{12})^{-1}$.

(2): Find the B_f matrix by the formula, $B_f = [I_\mu : -A_{11}^T (A_{12}^T)^{-1}]$ and verify $B_f \Delta M = 0$ for a reachable marking.

(3): Find the coverability graph.

(4): Determine whether or not this **net** is BF, UF, SF, or WF?

State a reason for each of your answers.

(5): Determine whether or not this **net** is live, bounded, reversible, or persistent?

State a reason for each of your answers.