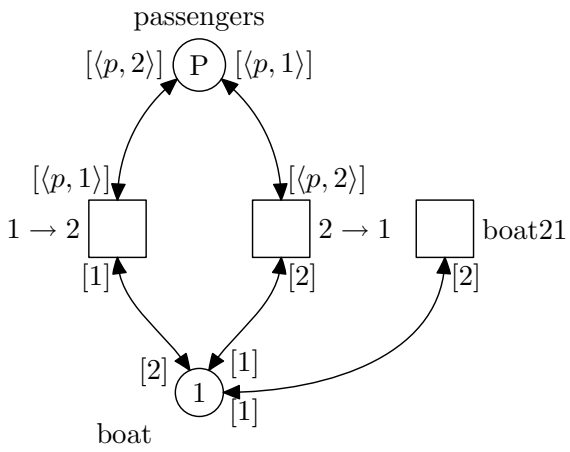
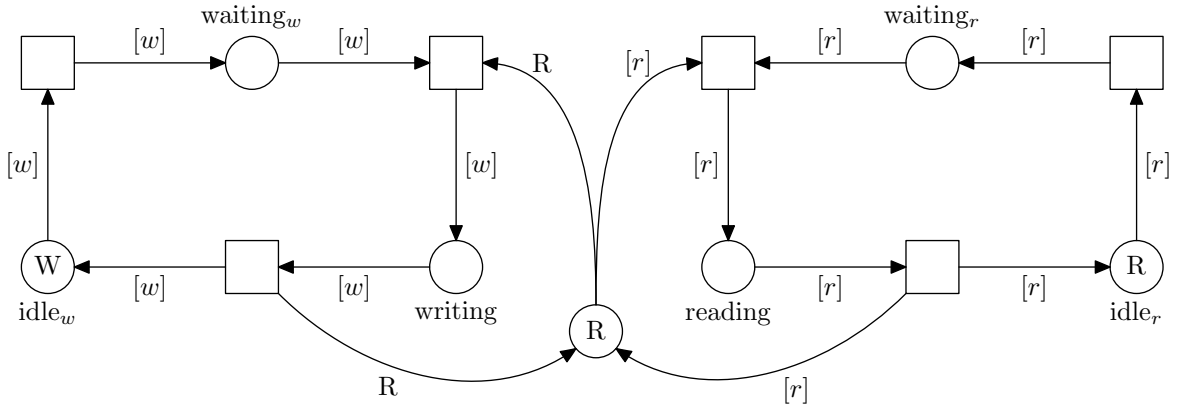
1. Model the following net with the net description language of Maria. Find the unwanted states by using reject-statement or fact transitions. A fact transition can be represented by a transition with gate `gate fatal;`. Examine the paths leading to unwanted states with `path` command. You can get a graphical representation of the path by adding a command `visual` in front of `path`.



2. Model the presented reader-writer system with Maria. Use suitably small values for m and n, for example 3 and 2. Reader processes can read concurrently, but if a writer process wants to write, no other process can neither read nor write. Check that the system works correctly.



3. Model the net, modeling Peterson's algorithm for mutual exclusion, with Maria. The gate α is in $= 0 \vee$ turn $= 0$ and the gate β is in $= 0 \vee$ turn $= 1$. Check if it is possible that both processes are in the critical section at the same time.