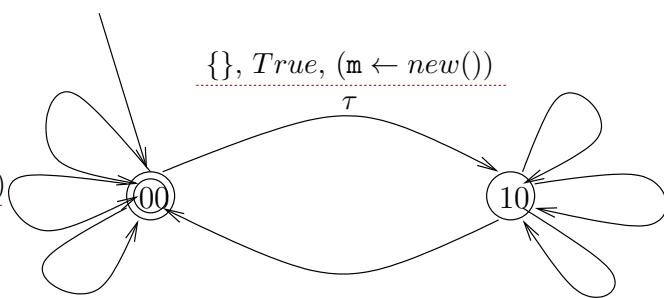


$$\begin{array}{l} l \leftarrow 0 \\ f \leftarrow 0 \end{array}$$

$$\begin{array}{l} \{Q \mapsto \text{put}(m)\}, \text{True}, () \\ \text{print}(m) \end{array}$$

$$\{Q \mapsto \text{compute}\}, \text{True}, ()$$

$$\begin{array}{l} \{Q \mapsto \text{get}(M[f])\}, [(l \neq f)], (f \leftarrow (f + 1) \% N) \\ \text{pop} \end{array}$$


$$\begin{array}{l} \{Q \mapsto \text{put}(m)\}, \text{True}, () \\ \text{print}(m) \end{array}$$

$$\{Q \mapsto \text{compute}\}, \text{True}, ()$$

$$\begin{array}{l} \{Q \mapsto \text{get}(M[f])\}, [(l \neq f)], (f \leftarrow (f + 1) \% N) \\ \text{pop} \end{array}$$

$$\begin{array}{l} \{\}, [(l + 1) \% N \neq f], (M[(l + 1) \% N] \leftarrow m; l \leftarrow (l + 1) \% N) \\ \text{push} \end{array}$$