## HW02 Solution

## Prob 2a: $L=\left\{a^{i}: i \not \equiv 0(\bmod p q)\right\}$. DFA

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Number of States: pq.

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Number of States: $p+q+1$.

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$F=\left\{\left(i_{1}, \ldots, i_{k}\right):\right.$ the numb of $i$ 's that are 0 is a square $\}$.

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Intuition $\exists$ path $p \rightarrow q$ in $M \Longrightarrow \exists$ path $q \rightarrow p$ in $M^{R}$.

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