Problem type 1:

Draw a DFA that represents the following languages:

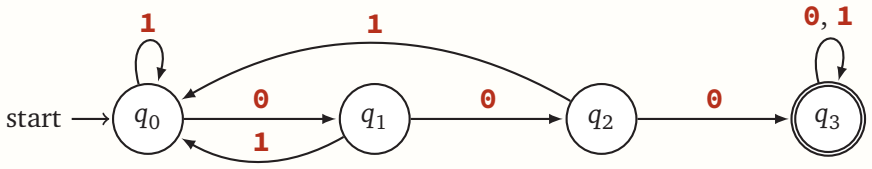
> *(See variants below)*

Assume $\Sigma = \{\mathtt{0}, \mathtt{1}\}$

a. **BYA**

All strings containing the *substring* **000**

Solution:



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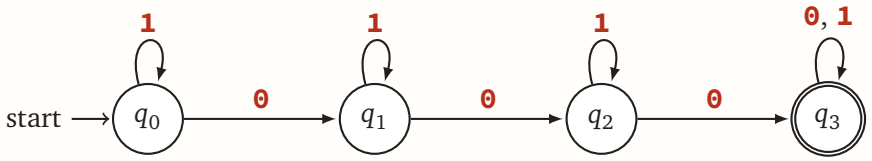
b. **BYF**

All strings containing the *subsequence* **000**

Solution:

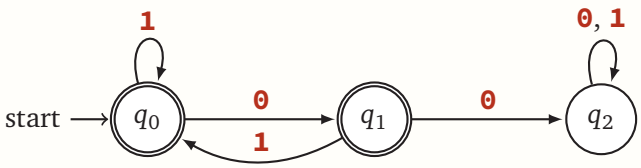


■

c. **BYH**

All strings that do not contain the *substring* **00**.

Solution:

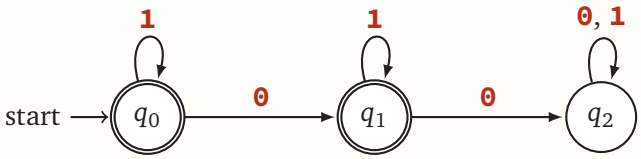


■

d. **BYC**

All strings that do not contain the *subsequence* **00**

Solution:



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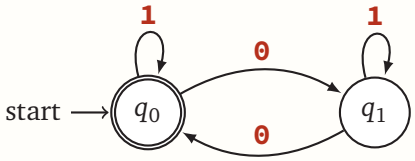
e. **BYD**

All strings that have a even number of **0**'s.

Solution:



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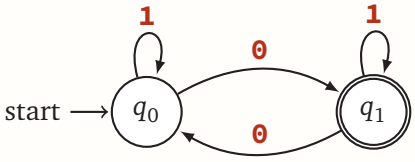
f. **BYE**

All strings that have a odd number of **0**'s.

Solution:



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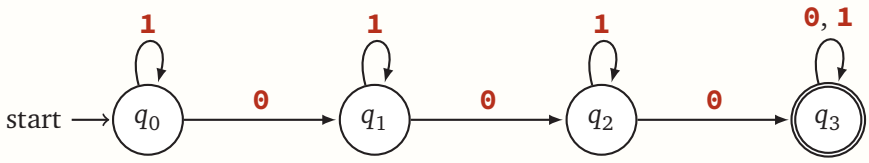
g. **BYG**

All string containing at **least** three **0**'s

Solution:

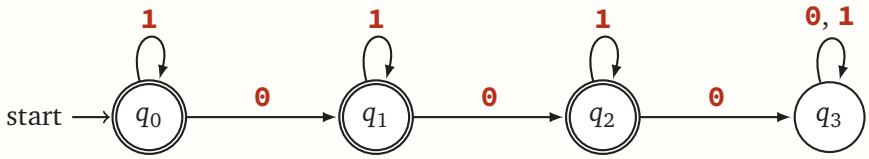


■

h. **BYB**

All string containing at **most** three **0**'s

Solution:



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