# Problem type 1:

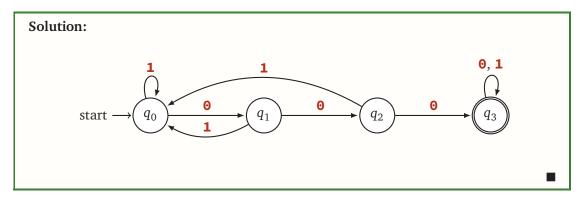
Draw a DFA that represents the following languages:

(See variants below)

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

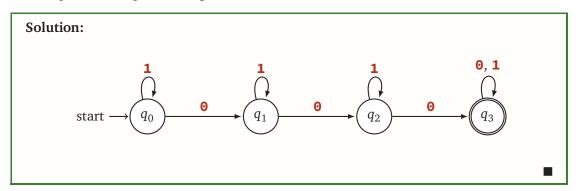
### a. BYA

All strings containing the substring 000



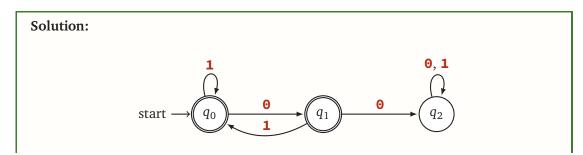
## b. BYF

All strings containing the subsequence 000



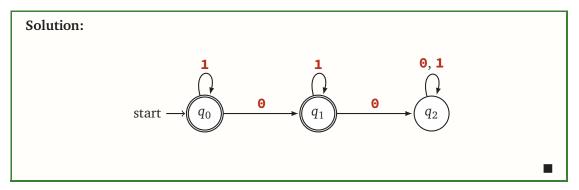
### c. BYH

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



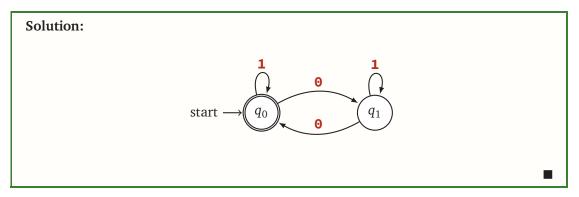
d. BYC

All strings that do not contain the subsequence 00



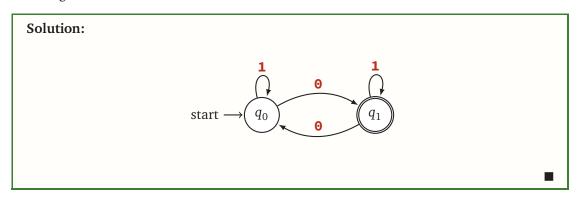
e. BYD

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



f. BYE

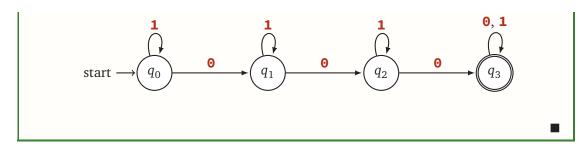
All strings that have a odd number of **0**'s.



g. BYG

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

**Solution:** 



# h. BYB

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

