**Assignment 2**

**COMSATS University Islamabad**

Sahiwal Campus



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FA17-BS(CS)-090-B

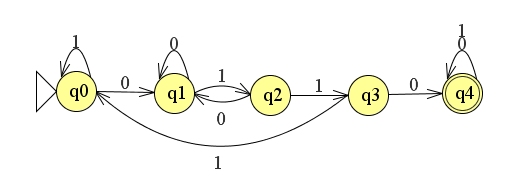
**Mr. Yawar Abid**

Automata Theory (CSC312)

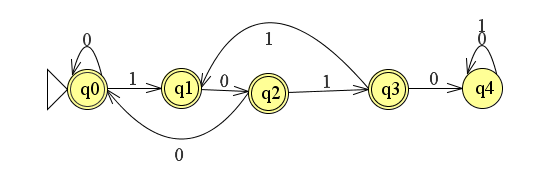
June 19, 2020

# Give DFA for the following languages, over the alphabet {0, 1}

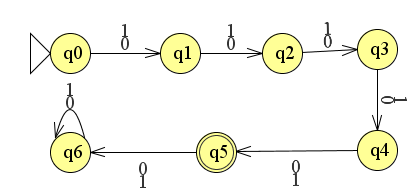
## Set of all strings containing the substring 0110



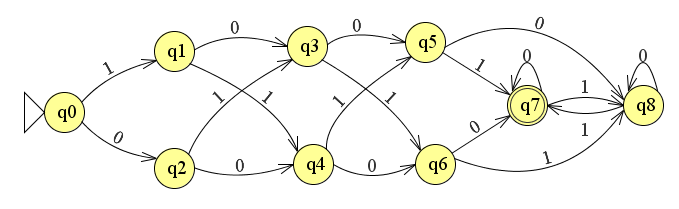
## Set of all strings that do not contain the substring 1010



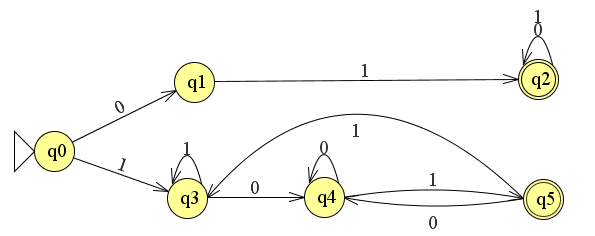
## Set of all strings that are exactly of length 5



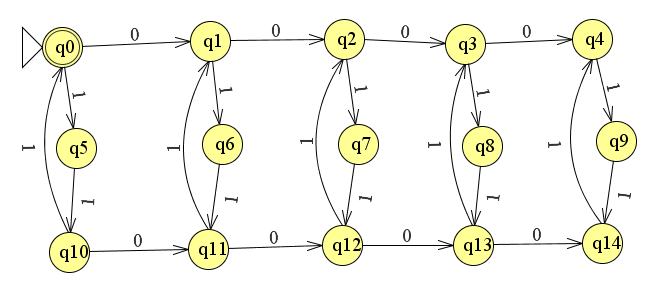
## Set of all strings that are at least of length 4 and contains even number of 1’s



## Set of strings that either begin or end (or both) with 01

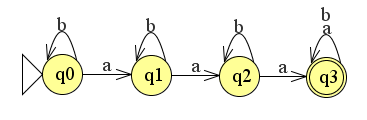


## Set of all strings with number of 0’s in multiples of 5 and number of 1’s in multiple of 3

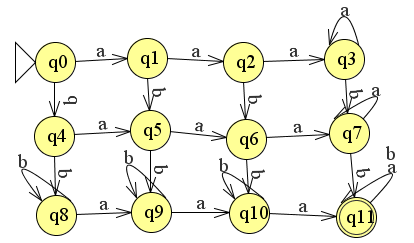


# Give DFA for the following languages, over the alphabet {a, b}

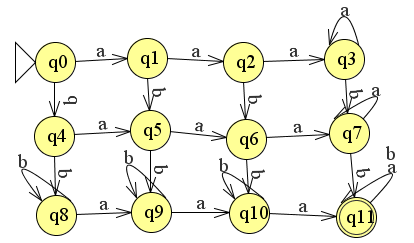
## {w| w has at least three a’s}



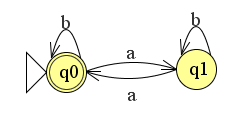
## {w| w has at least three a’s and at least two b’s}



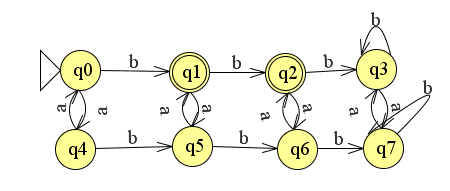
## {w| w has exactly two a’s and at least two b’s}



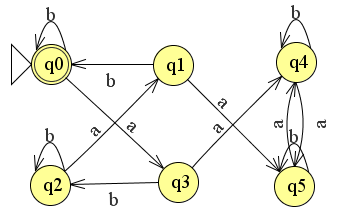
## {w| w has an even number of a’s}



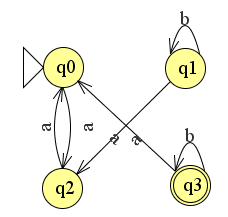
## {w| w has an even number of a’s and one or two b’s}



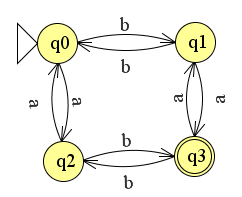
## {w| w has an even number of a’s and each a is followed by at least one b}



## {w| w has an odd number of a’s and ends with a b}



## {w| w has even length and an odd number of a’s}



## All strings that do not end with aa.

