# Lab Two

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## 1 Exercise 3.3

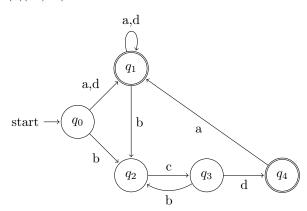
#### 1.1 REGEX FOR FINITE AUTOMATA EXAMPLES

- 1.) (ab\*a)|(ba\*b)
- 2.)  $a|a((bc|c)da)^+$
- 3.)  $\lambda |(ab*c)|$

#### 2 Exercise 3.4

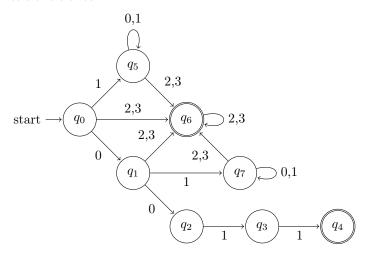
#### 2.1 DFA ONE

(a|(bc)\*d)+



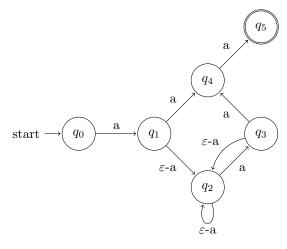
#### 2.2 DFA Two

## $((0|1)*(2|3)^+)|0011$



#### 2.3 DFA THREE

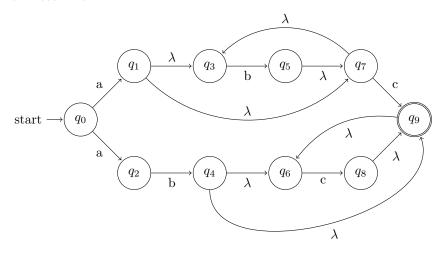
## (aNot(a))\*aaa



# 3 Exercise 3.15

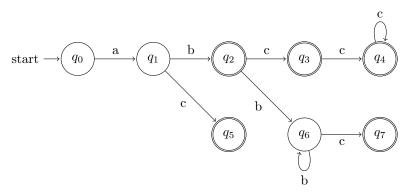
#### 3.1 NFA FOR REGEX

(ab\*c)|(abc\*)



#### 3.2 DFA FROM PREVIOUS NFA

(ab\*c)|(abc\*)



# 4 Exercise 3.3.4

#### 4.1 Case Insensitive Regex

 $[\mathrm{Ss}][\mathrm{Ee}][\mathrm{Ll}][\mathrm{Ee}][\mathrm{Cc}][\mathrm{Tt}]$