CS375 WK7

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Figure 1: Q01: FA

Figure 2: Q01: PDA
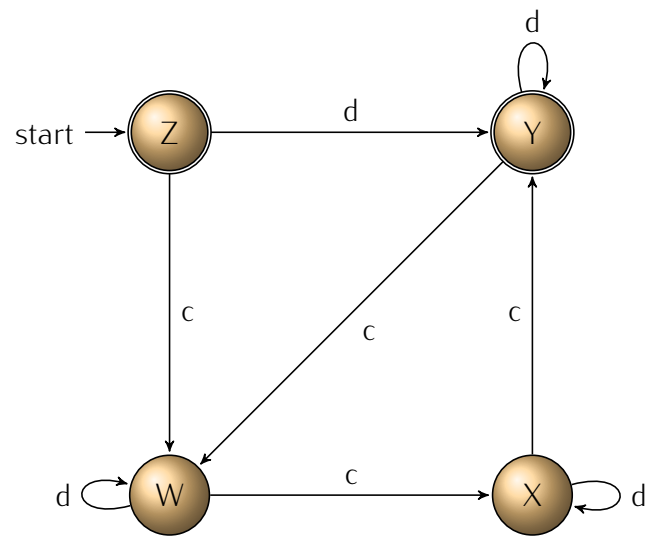
Figure 3: Q02: FA

Figure 4: Q02: PDA
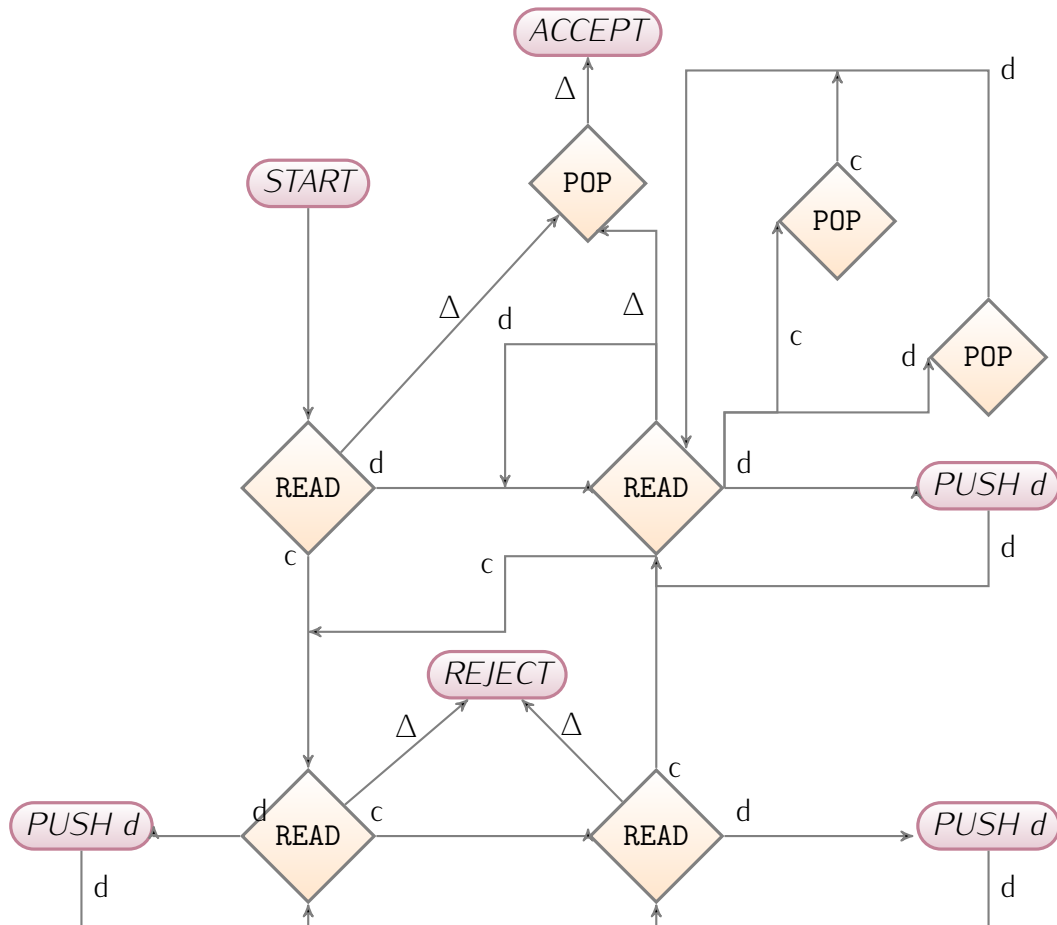
Figure 5: Q03a: Conversion Form
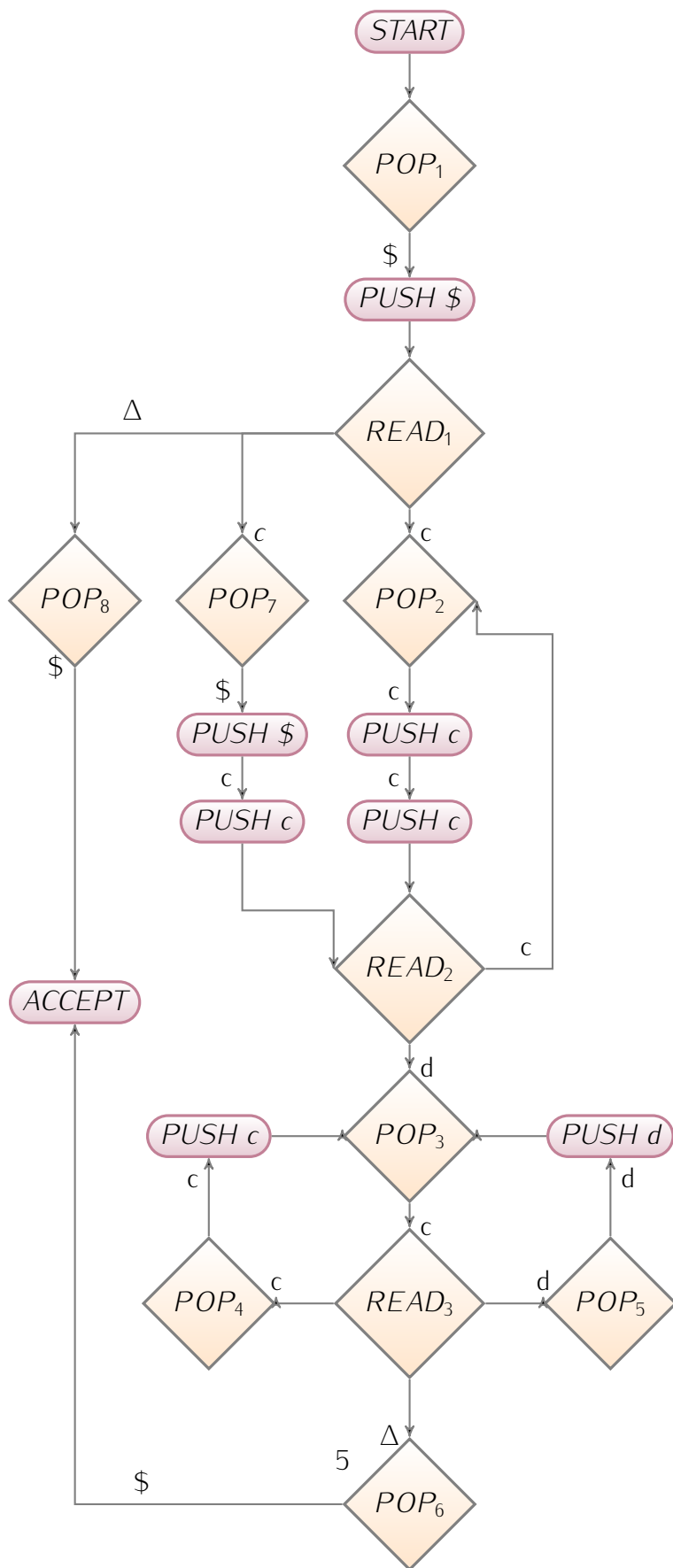
Figure 6: Q03.a Summary Table

FROM Where	To Where	READ What	POP What	PUSH What	ROW Number
START	$READ_1$	Λ	$	$	1
$READ_1$	ACCEPT	Λ	$	–	2
$READ_1$	$READ_2$	c	$	c$	3
$READ_1$	$READ_2$	c	c	cc	4
$READ_2$	$READ_2$	c	c	cc	5
$READ_2$	$READ_3$	d	c	–	6
$READ_3$	$READ_3$	c	cc	c	7
$READ_3$	$READ_3$	d	dc	d	7
$READ_3$	$ACCEPT$	Λ	$	–	8

Figure 7: Q03.a Productions

Rule 1: $S \rightarrow Net(START, ACCEPT, \$)$

Rule 2:

$Net(READ_1, ACCEPT, \$) \rightarrow Row_2$

$Net(READ_2, READ_3, \$) \rightarrow Row_6$

$Net(READ_3, ACCEPT, \$) \rightarrow Row_8$

Rule 3:

$Row_1 \rightarrow \Lambda$

$Row_2 \rightarrow \Lambda$

$Row_3 \rightarrow c$

$Row_4 \rightarrow c$

$Row_5 \rightarrow c$

$Row_6 \rightarrow d$

$Row_7 \rightarrow c$

$Row_8 \rightarrow c$

Figure 8: Q03.b

STATE	STACK	TAPE
Start	Δ	c c c d d d
$Read_1$	Δ	c c c d d d
Push	cΔ	c c c d d d
$Read_2$	cΔ	c c c d d d
Push	ccΔ	c c c d d d
$Read_2$	ccΔ	c c c d d d
Push	cccΔ	c c c d d d
$Read_2$	cccΔ	c c c d d d
Pop	ccΔ	c c c d d d
$Read_3$	ccΔ	c c c d d d
Pop	cΔ	c c c d d d
$Read_3$	cΔ	c c c d d d
Pop	Δ	c c c d d d
$Read_3$	Δ	c c c d d d
Pop	Δ	c c c d d d
Accept	Δ	c c c d d d

Figure 9: Q03.c

STATE	STACK	TAPE
Start	Δ	c c c d c d
$Read_1$	Δ	c c c d c d
Push	cΔ	c c c d c d
$Read_2$	cΔ	c c c d c d
Push	ccΔ	c c c d c d
$Read_2$	ccΔ	c c c d c d
Push	cccΔ	c c c d c d
$Read_2$	cccΔ	c c c d c d
Pop	ccΔ	c c c d c d
$Read_3$	ccΔ	c c c d c d
Pop	cΔ	c c c d c d
$Read_3$	cΔ	c c c d c d
Pop	Δ	c c c d c d
$Read_3$	Δ	c c c d c d
Pop	Δ	c c c d c d
Accept	Δ	c c c d c d

Figure 10: Q03.d

STATE	STACK	TAPE
Start	Δ	c c c d c c
$Read_1$	Δ	c c c d c c
Push	cΔ	c c c d c c
$Read_2$	cΔ	c c c d c c
Push	ccΔ	c c c d c c
$Read_2$	ccΔ	c c c d c c
Push	cccΔ	c c c d c c
$Read_2$	cccΔ	c c c d c c
Pop	ccΔ	c c c d c c
$Read_3$	ccΔ	c c c d c c
Pop	cΔ	c c c d c c
$Read_3$	cΔ	c c c d c c
Pop	Δ	c c c d c c
$Read_3$	Δ	c c c d c c
Pop	Δ	c c c d c c
Accept	Δ	c c c d c c

Figure 11: Q03.e

STATE	STACK	TAPE
Start	Δ	c c c c d d
$Read_1$	Δ	c c c c d d
Push	cΔ	c c c c d d
$Read_2$	cΔ	c c c c d d
Push	ccΔ	c c c c d d
$Read_2$	ccΔ	c c c c d d
Push	cccΔ	c c c c d d
$Read_2$	cccΔ	c c c c d d
Push	ccccΔ	c c c c d d
$Read_2$	ccccΔ	c c c c d d
Pop	cccΔ	c c c c d d
$Read_2$	cccΔ	c c c c d d
Pop	ccΔ	c c c c d d
$Read_3$	ccΔ	c c c c d d
Pop	cΔ	c c c c d d
Reject	cΔ	c c c c d d

Figure 12: Q05: Conversion Form