CS375 WK7

Jason N Mansfield

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Figure 1: Q01: FA

Figure 2: Q01: PDA

Figure 3: Q02: FA
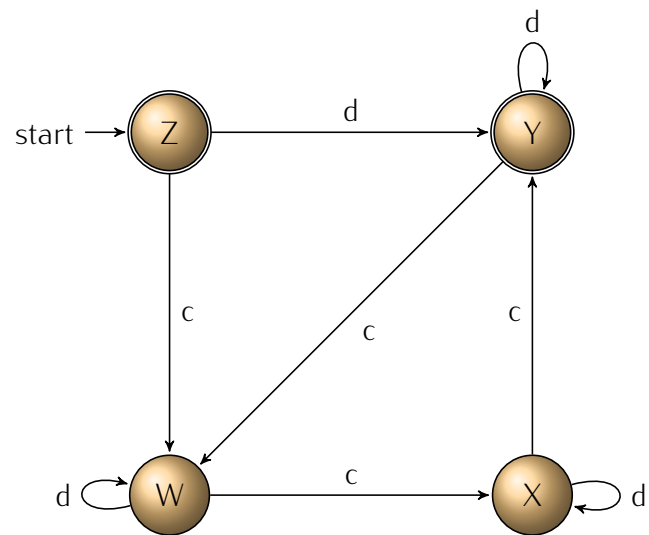
Figure 4: Q02: PDA
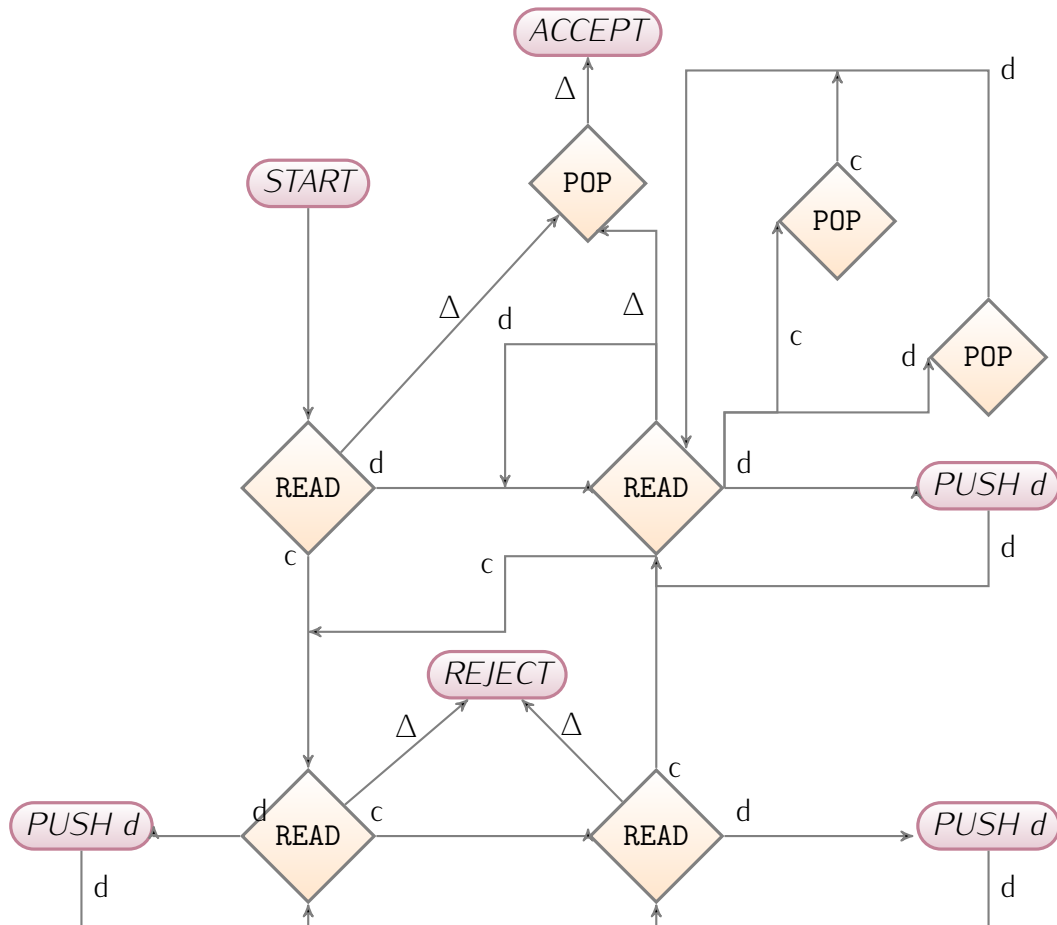
Figure 5: Q03a: Conversion Form

START

POP₁

$

PUSH $

Δ   READ₁

POP₈   POP₇   c   POP₂

$ $ c

PUSH $ PUSH c

c   c

PUSH c   PUSH c

ACCEPT   READ₂   c

d

PUSH c   POP₃   PUSH d

c   c   d

POP₄   c   READ₃   d   POP₅

Δ

5

$ POP₆
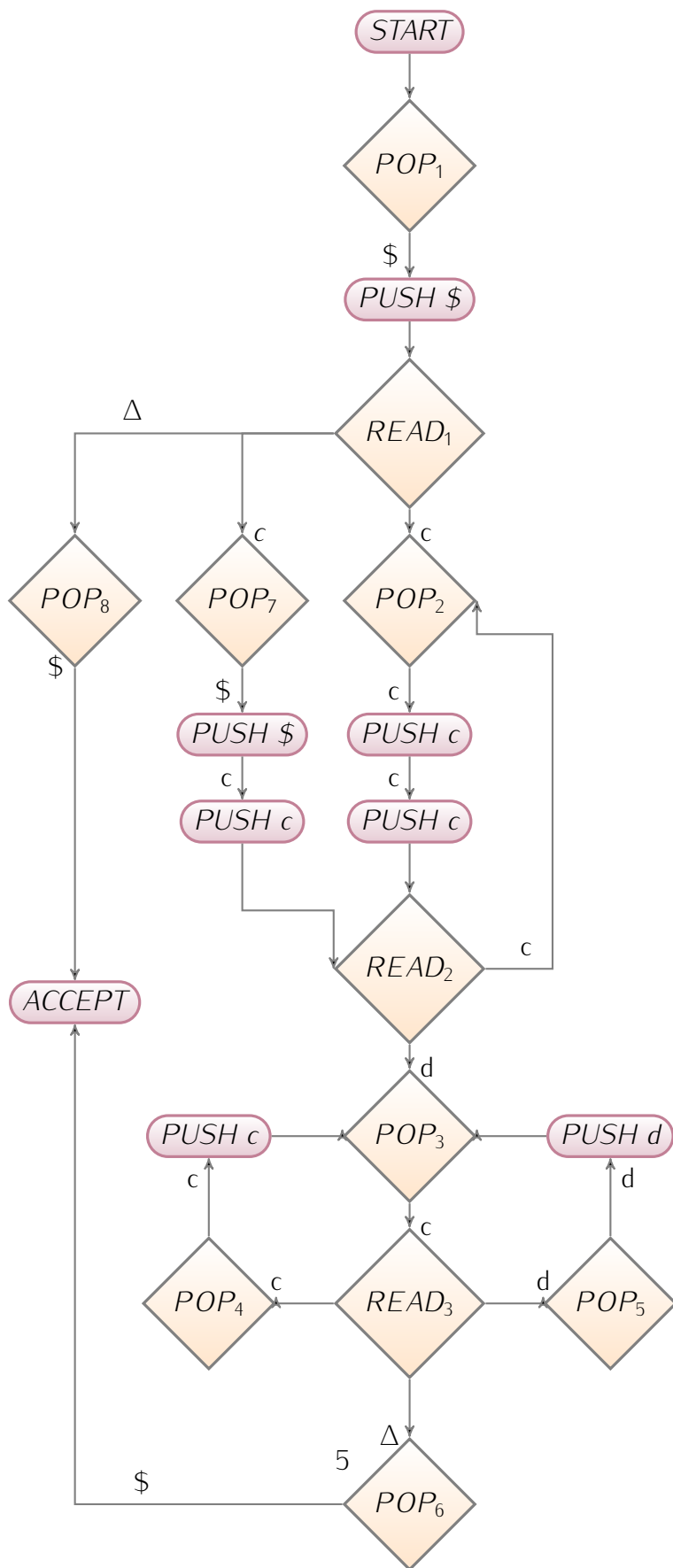
Figure 6: Q03.a Summary Table

FROM Where	To Where	READ What	POP What	PUSH What	ROW Number
START	$READ_1$	$\wedge$	\$	\$	1
$READ_1$	ACCEPT	$\wedge$	\$	–	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
$READ_3$	$ACCEPT$	$\wedge$	\$	–	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:
$Row_1 \rightarrow \wedge$
$Row_2 \rightarrow \wedge$
$Row_3 \rightarrow c$
$Row_4 \rightarrow c$
$Row_5 \rightarrow c$
$Row_6 \rightarrow d$
$Row_7 \rightarrow c$
$Row_8 \rightarrow c$

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

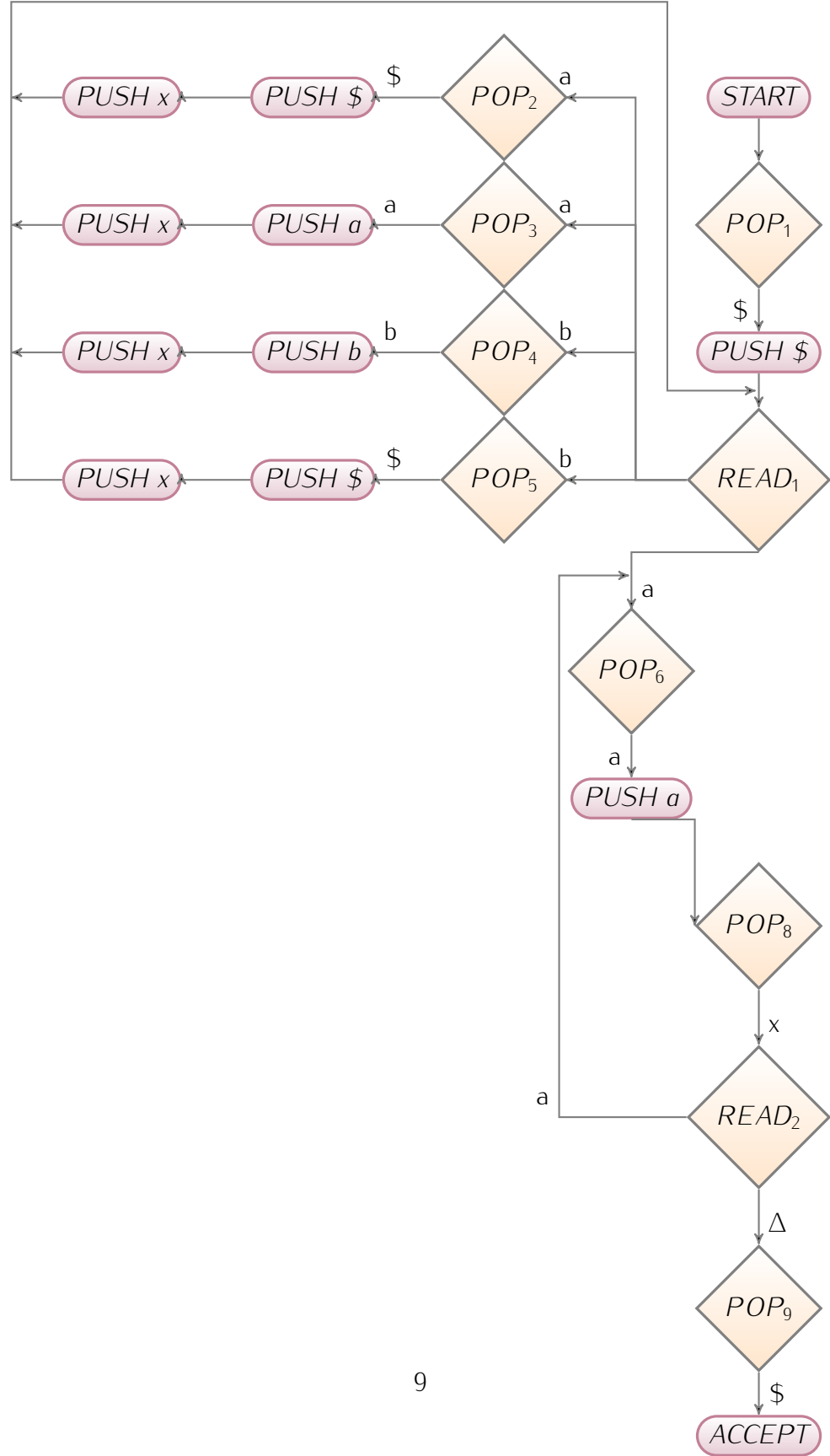| STATE	STACK	TAPE
Start	Δ	c c c c d d
$Read_1$	Δ	c c c c d d
Push	cΔ	c c c c d d
$Read_2$	cΔ	c c c c d d
Push	ccΔ	c c c c d d
$Read_2$	ccΔ	c c c c d d
Push	cccΔ	c c c c d d
$Read_2$	cccΔ	c c c c d d
Push	ccccΔ	c c c c d d
$Read_2$	ccccΔ	c c c c d d
Pop	cccΔ	c c c c d d
$Read_2$	cccΔ	c c c c d d
Pop	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: Q05-7: Conversion Form

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Figure 13: Q08–11: Conversion Form

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