CS375 WK7

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Figure 1: Q01: FA

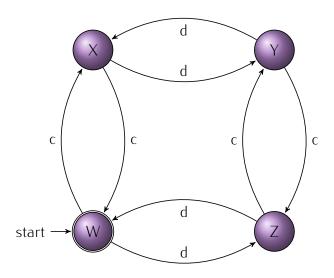


Figure 2: Q01: PDA

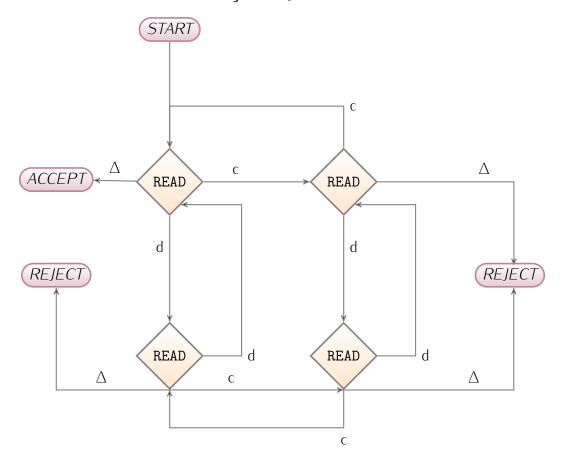
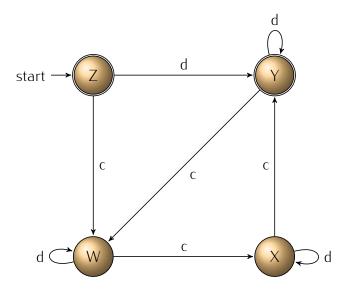


Figure 3: Q02: FA



ACCEPT d Δ START POP POP Δ d C POP d 🛦 d d READ (PUSH d) READ d C REJECT d C PUSH d PUSH d READ READ d d

Figure 4: Q02: PDA

Figure 5: Q03a: Conversion Form

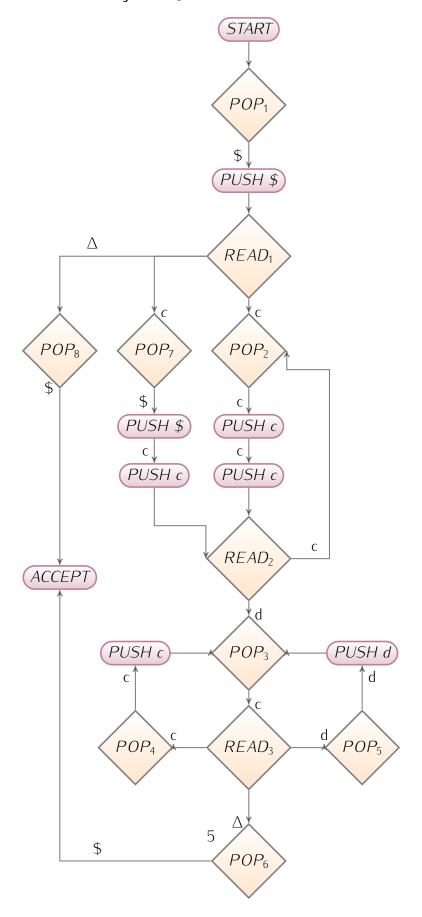


Figure 6: Q03.a Summary Table

FROM Where	To Where	READ What	POP What	PUSH What	ROW Number
START	$READ_1$	Λ	\$	\$	1
$READ_1$	ACCEPT	Λ	\$	-	2
$READ_1$	$READ_2$	С	\$	c\$	3
$READ_1$	$READ_2$	С	С	СС	4
$READ_2$	$READ_2$	С	С	СС	5
$READ_2$	$READ_3$	d	С	-	6
$READ_3$	$READ_3$	С	СС	С	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	cccddd
$Read_1$	Δ	cccddd
Push	сΔ	cccddd
$Read_2$	сΔ	cccddd
Push	сс∆	cccddd
$Read_2$	сс∆	cccddd
Push	ссс∆	cccddd
$Read_2$	ссс∆	cccddd
Pop	сс∆	cccddd
$Read_3$	сс∆	cccddd
Pop	сΔ	cccddd
$Read_3$	сΔ	cccddd
Pop	Δ	cccddd
$Read_3$	Δ	cccddd
Pop	Δ	cccddd
Accept	Δ	cccddd

Figure 9: Q03.c

STATE	STACK	TAPE
Start	Δ	cccdcd
$Read_1$	Δ	cccdcd
Push	сΔ	cccdcd
$Read_2$	сΔ	ccdcd
Push	сс∆	cccdcd
$Read_2$	сс∆	cccdcd
Push	ссс∆	cccdcd
$Read_2$	ссс∆	cccdcd
Pop	сс∆	cccdcd
$Read_3$	сс∆	cccdcd
Pop	сΔ	cccdcd
$Read_3$	сΔ	cccdcd
Pop	Δ	cccdcd
$Read_3$	Δ	cccdcd
Pop	Δ	cccdcd
Accept	Δ	cccdcd

Figure 10: Q03.d

STATE	STACK	TAPE
Start	Δ	cccdcc
Read ₁	Δ	cccdcc
Push	сΔ	cccdcc
Read ₂	сΔ	cccdcc
Push	сс∆	ccdcc
$Read_2$	сс∆	cccdcc
Push	ссс∆	cccdcc
Read ₂	ссс∆	cccdcc
Pop	сс∆	cccdcc
$Read_3$	сс∆	cccdcc
Pop	сΔ	cccdcc
$Read_3$	сΔ	cccdcc
Pop	Δ	cccdcc
$Read_3$	Δ	cccdcc
Pop	Δ	cccdcc
Accept	Δ	cccdcc

Figure 11: Q03.e

STATE	STACK	TAPE
Start	Δ	cccdd
$Read_1$	Δ	cccdd
Push	сΔ	cccdd
$Read_2$	сΔ	cccdd
Push	сс∆	cccdd
$Read_2$	сс∆	ccccdd
Push	ссс∆	ccccdd
$Read_2$	ссс∆	ccccdd
Push	сссс∆	ccccdd
$Read_2$	сссс∆	ccccdd
Pop	ссс∆	cccdd
$Read_2$	ссс∆	ccccdd
Pop	сс∆	ccccdd
$Read_3$	сс∆	ccccdd
Pop	сΔ	cccdd
Reject	сΔ	cccdd

Figure 12: Q05: Conversion Form

