Toc Assignment-1

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Drawing the PDA

$0, Z_0 | Z_0$
$1, Z_0 | Z_0$
$0, 0 | 0$
$1, 1 | 1$
$0, 1 | 1$
$1, 0 | 0$

$0, 0 | \epsilon$
$1, 1 | \epsilon$

(P) $\longleftarrow$ (q)

$0, Z_0 | 0 Z_0$
$1, Z_0 | 1 Z_0$
$0, 0 | 00$
$1, 1 | 11$
$0, 1 | 01$
$1, 0 | 10$

(q) $\longrightarrow$ (r) $\longrightarrow$ (s)

$\epsilon, 0 | 0$
$\epsilon, 1 | 1$

$\epsilon, Z_0 | Z_0$
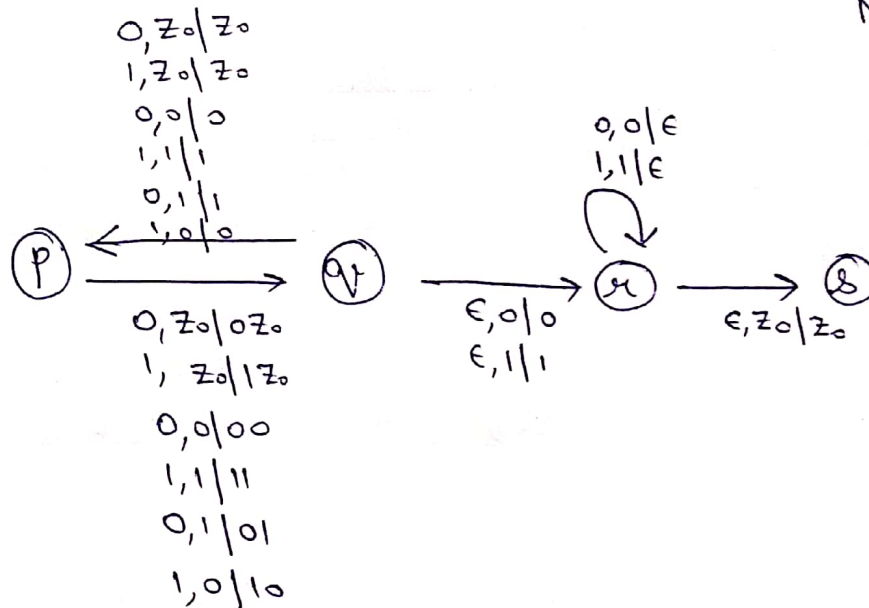
Input @ 10010

$(P, 10010, Z_0)$
↓
$(q, 0010, 1Z_0) \rightarrow (r, 0010, 1Z_0)$
↓
$(P, 010, 1Z_0)$
↓
$(q, 10, 01Z_0) \rightarrow (r, 10, 01Z_0)$
↓
$(P, 0, 01Z_0)$
↓
$(q, \epsilon, 001Z_0)$
↓
$(r, \epsilon, 001Z_0)$

String 10010 is rejected by PDA.

Input (b) 110

$(P, 110, Z_0)$
↓
$(q, 10, 1Z_0) \rightarrow (r, 10, 1Z_0)$
↓
$(r, 0, Z_0)$

$(P, 0, 1Z_0)$
↓
$(q, \epsilon, 01Z_0)$
↓
$(r, \epsilon, 01Z_0)$

String 110 is rejected by PDA.

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