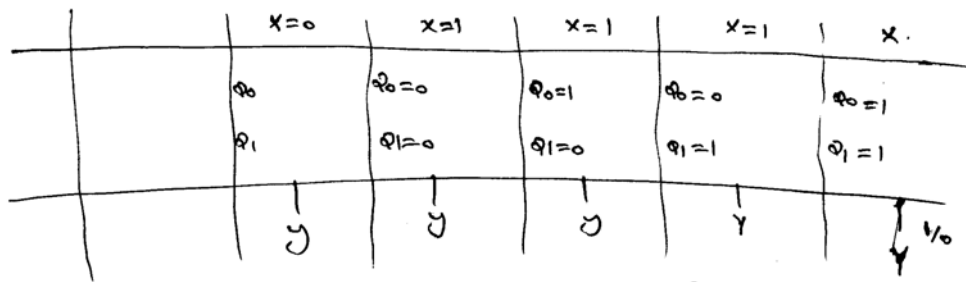


(ii)



The test sequence for detecting the fault $y \leftarrow 0$

is $x = \{0, 1, 1, 1, x\}$

(iii)

fault-free

faulty

P.S	$x=0$	$x=1$
00	00, 0	01, 0
01	00, 0	10, 0
10	00, 0	11, 0
11	00, 1	00, 1

P.S	$x=0$	$x=1$
00	00, 0	00, 0
01	00, 0	00, 0
10	00, 0	00, 0
11	00, 1	00, 1

Next state, output

The fault \uparrow is detectable and can be detected by the test sequence $x = \{0, 1, 1, 1, x\}$

Fault free

$$xx \xrightarrow[x]{0} 00 \xrightarrow[0]{1} 01 \xrightarrow[0]{1} 10 \xrightarrow[0]{1} 11 \xrightarrow[x]{1} xx$$

Faulty

$$xx \xrightarrow[x]{0} 00 \xrightarrow[0]{1} 00 \xrightarrow[0]{1} 00 \xrightarrow[0]{1} 00 \xrightarrow[x]{0} xx$$