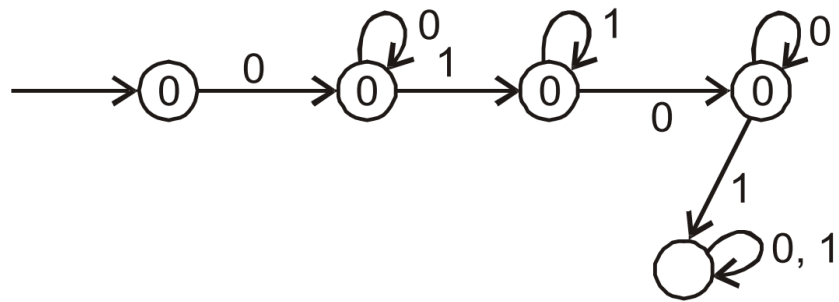


**Answer on Question#38197 – Math - Other**

$L_1 = \{0^p 1^q 0^r \mid p, q, r \geq 0\}$  is regular:



$L_2 = \{0^p 1^q 0^r \mid p, q, r \geq 0, p \neq r\}$  is context-free language. We can accept or reject  $L_2$  with single stack, insert  $p$  0's into stack skip 1's. For each 0 corresponding to  $r$ , remove 0 from stack.