

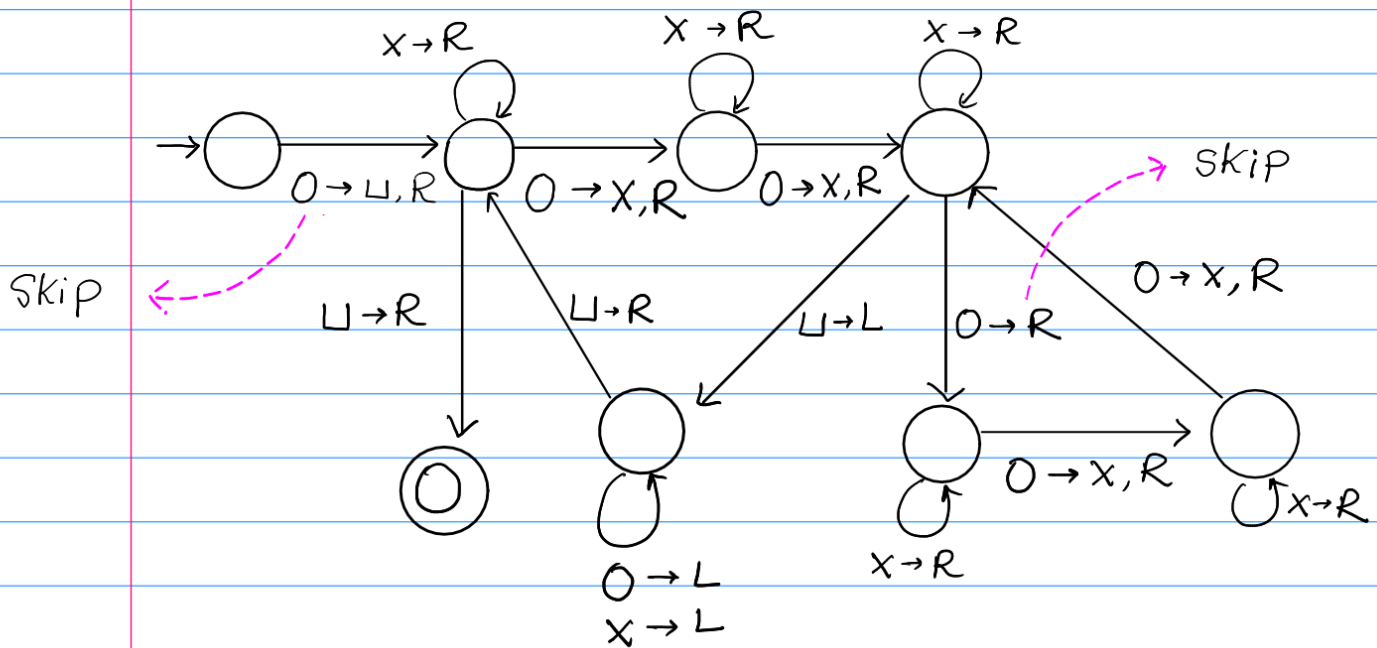
$$0^3 = \square \cancel{\otimes} \cancel{\otimes} \circ \cancel{\otimes} \cancel{\otimes} \circ \cancel{\otimes} \cancel{\otimes}$$

$$= \sqcup \quad \text{with } \textcircled{\times} \textcircled{\times}$$

$$= L$$

Qs 1. $L = \{0^3^n \mid n \geq 0\}$

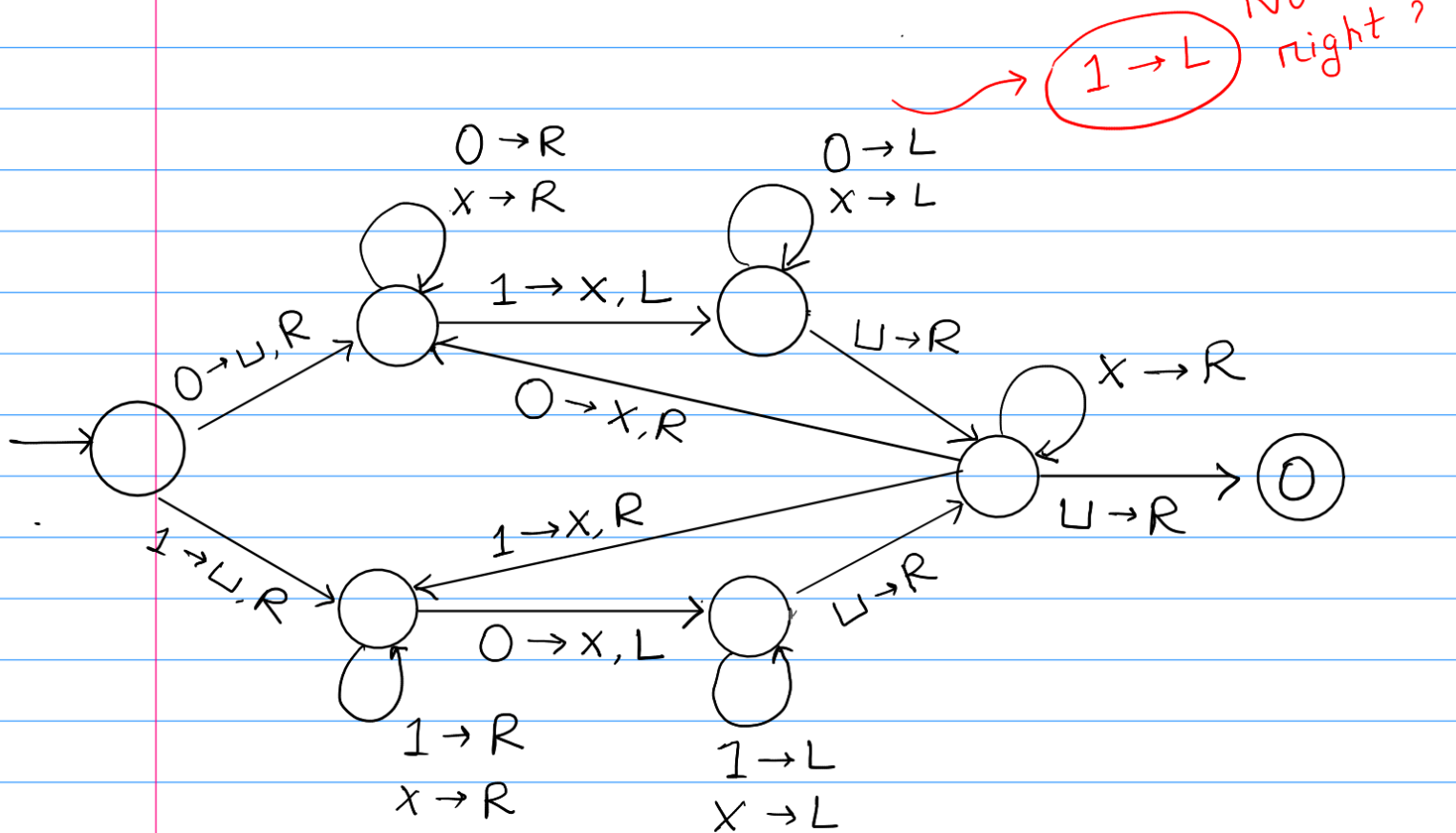
idea: skip one 0, then cross the next two 0s,
keep continuing it.



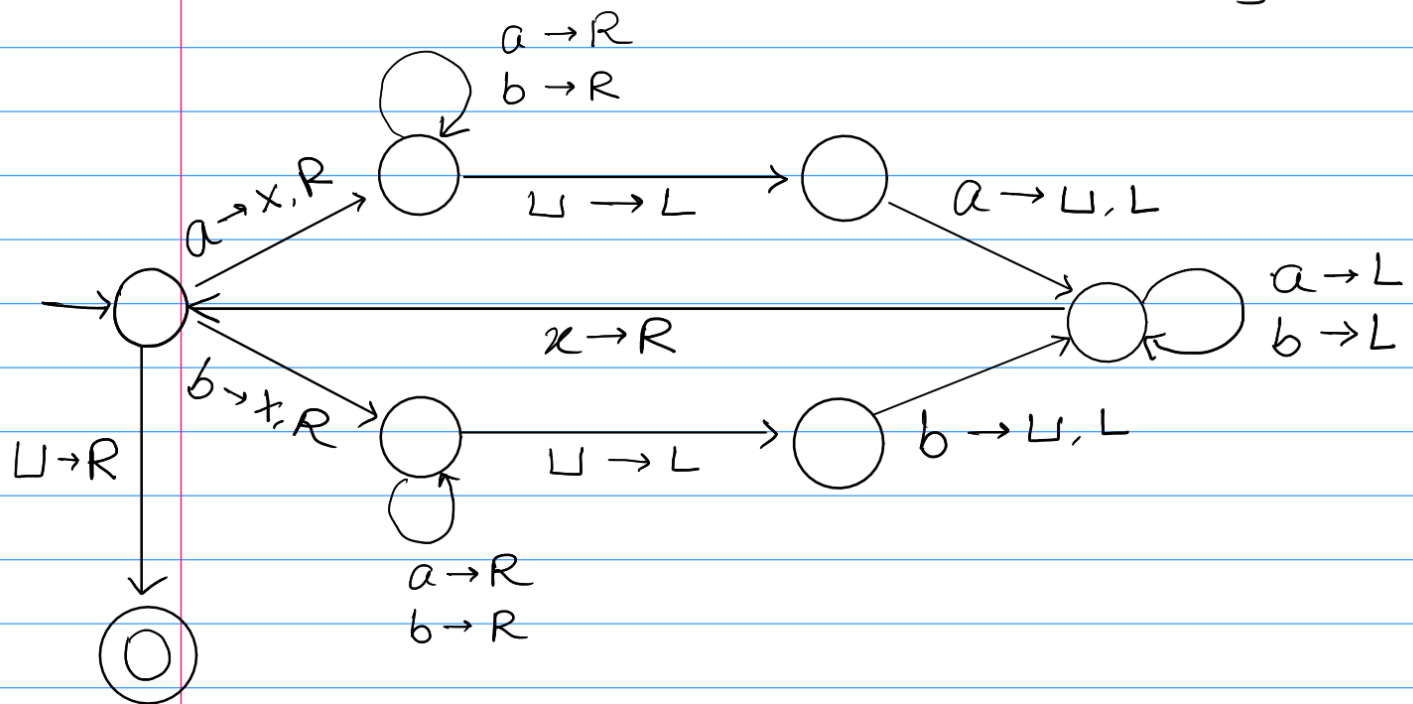
Qs 2: $L = \{ w \in \{0,1\}^* : w \text{ contains equal amount of 0s and 1s} \}$

idea: for any 0 I can cross any 1

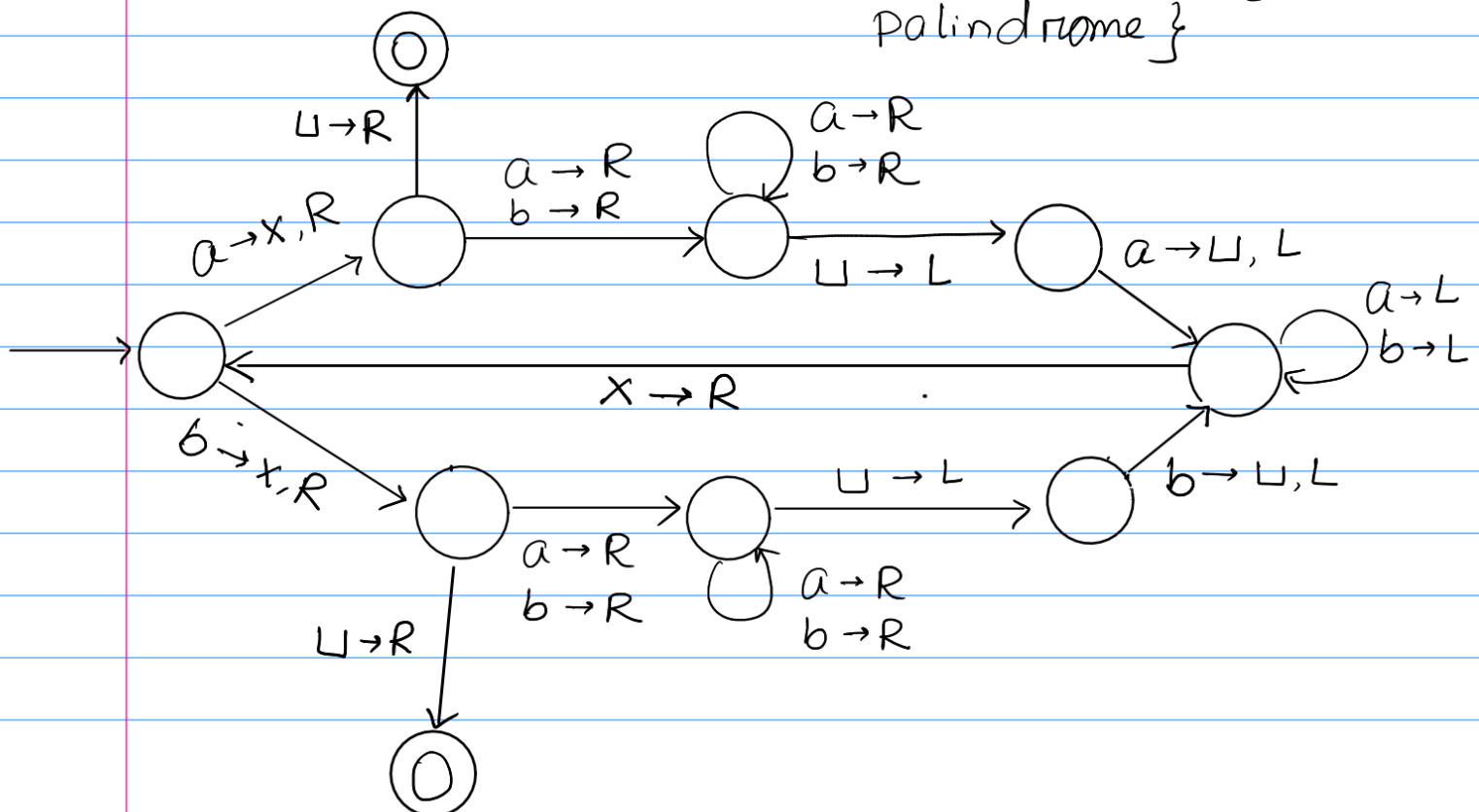
for any 1, I can cross any 0



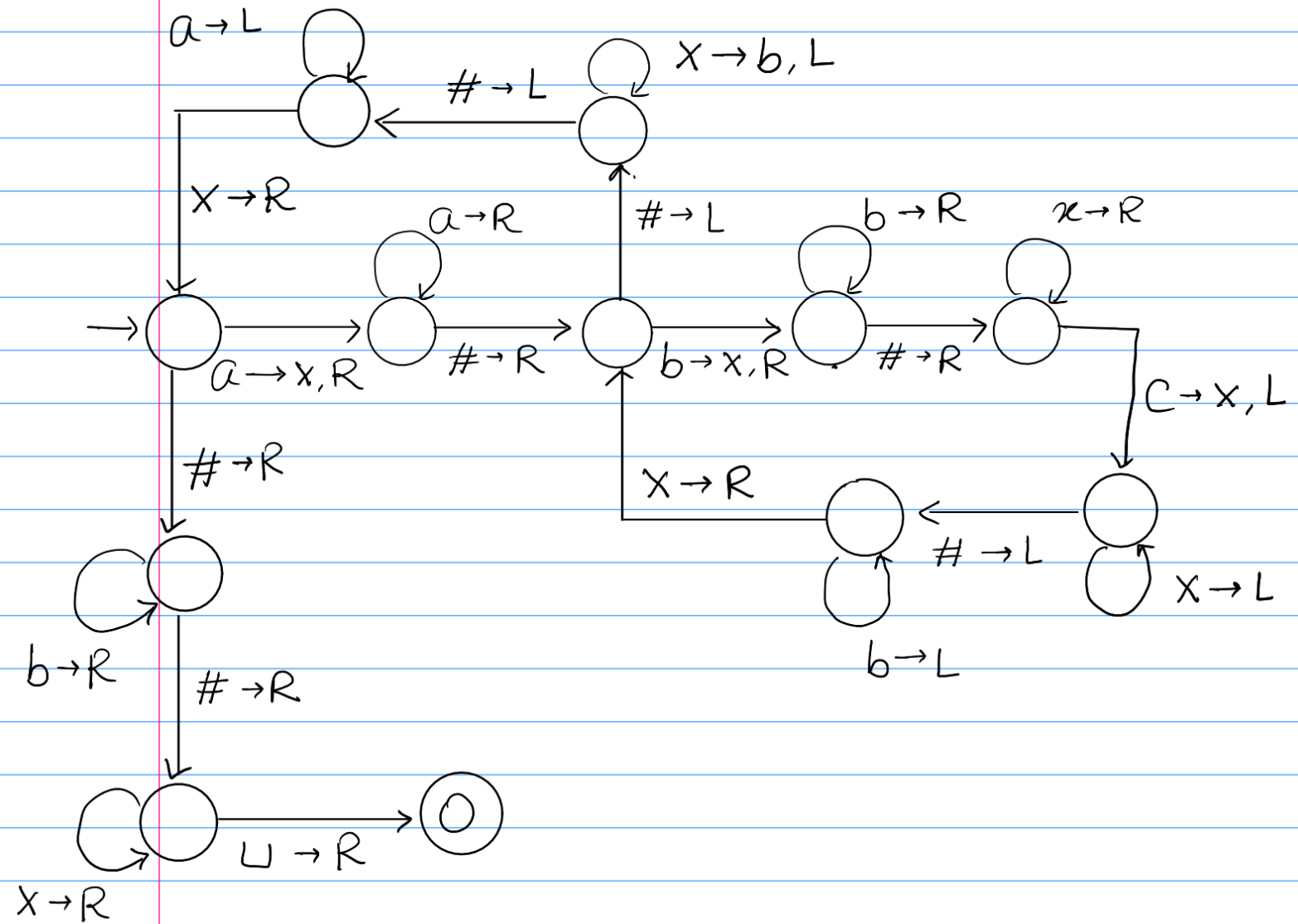
Qs3: $L = \{ \omega \in \{a,b\}^* : \omega \text{ is an even length palindrome} \}$



Qs3: $L = \{ \omega \in \{a,b\}^* : \omega \text{ is an odd length palindrome} \}$

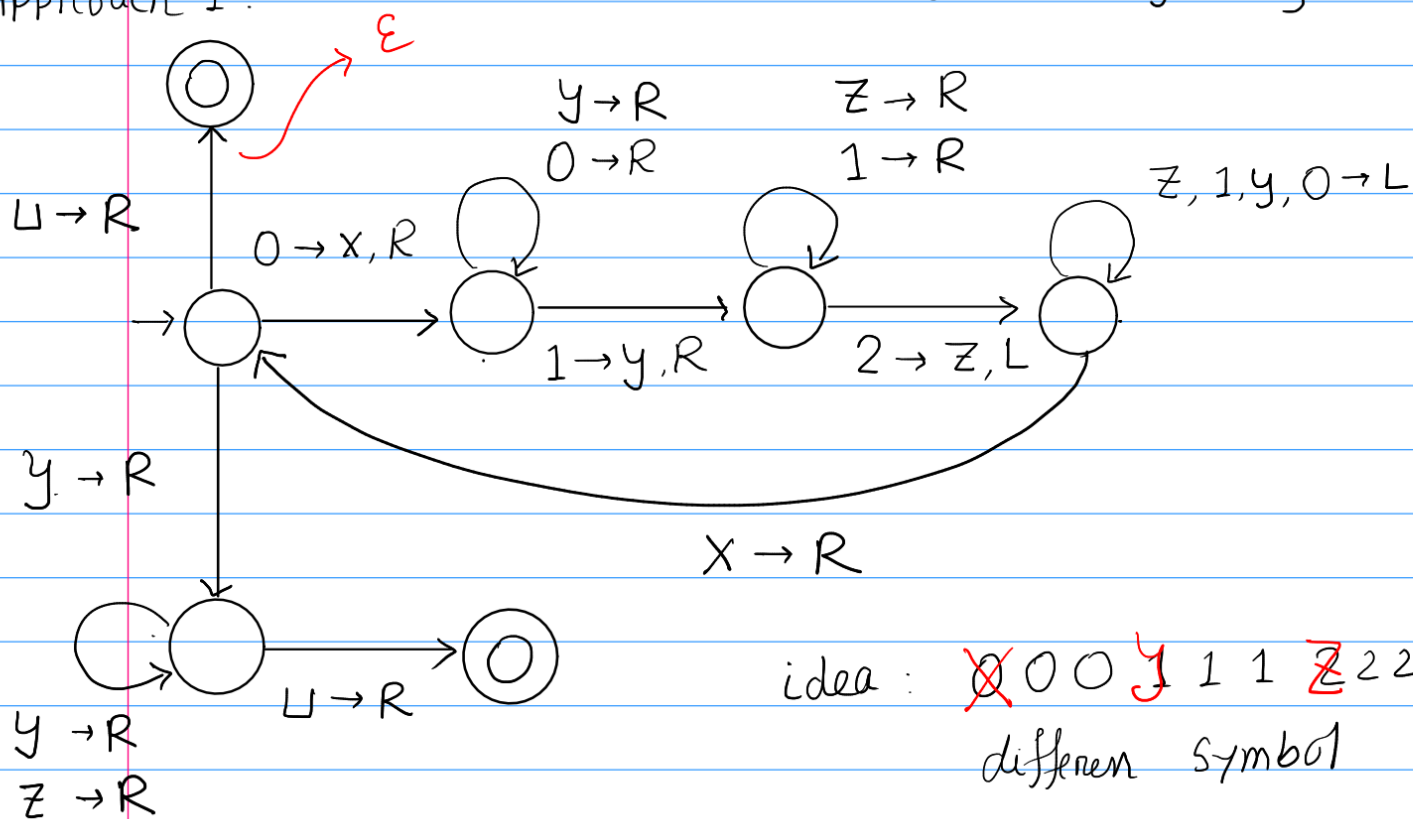


Q8:4 $L = \{ a^i b^j c^k \mid i \times j = k \text{ and } i, j, k \geq 0 \}$



Q55: $L = \{ \omega \in \{0,1,2\}^* : 0^i 1^j 2^k \text{ where } i,j,k \geq 0 \text{ and } i=j=k \}$

Approach 1:



idea: ~~0~~00~~y~~11~~z~~22
different symbol

same symbol, starting U

~~0~~~~x~~0~~x~~~~x~~1~~x~~~~x~~2

Approach 2:

