

Kleene closure

operation is performed on a single language
Repetition

Say, L , or $L^1 = \{a, abc, ba\}$, on $\Sigma = \{a, b, c\}$

Then, $L^2 = \{aa, aabc, aba, abca, abcabc, abcba, baa, baabc, baba\}$

$L^3 = \{a, abc, ba\} \cdot L^2$

.....

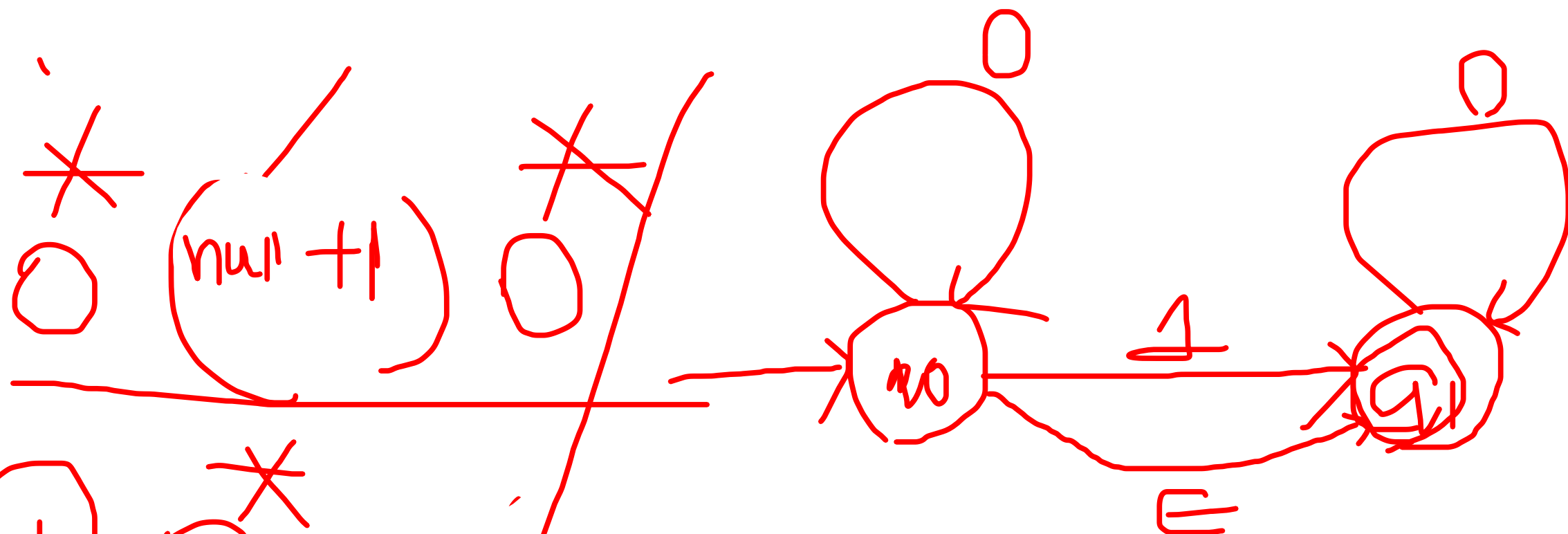
But, $L^0 = \{\epsilon\}$

Kleene closure of L , $L^* = \{\epsilon, L^1, L^2, L^3, \dots\}$

0001

0001000

$\Sigma = \{0, 1\}$ at $m \leftarrow 1$



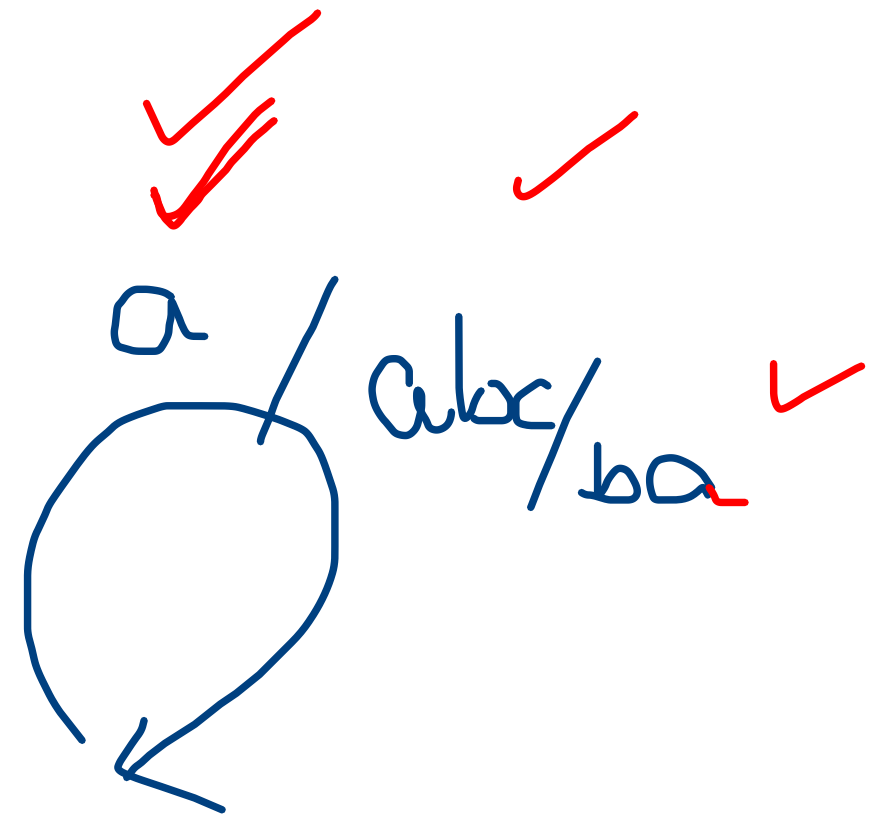
0* 1 0*

.....

Say, L , or $L^1 = \{a, abc, ba\}$, on $\Sigma = \{a, b, c\}$

$L = \{a, abc, \underline{ba}\}$ $L = L^1$

$$3^2 = 9$$
$$3^3 = 27$$



$L^2 = \{ \underline{aa}, aabc, aba,$
 $abca, abcabc, abcb,$
 $baa, baabc, baba \}$

**Two time options
are available**

9
3

9 9

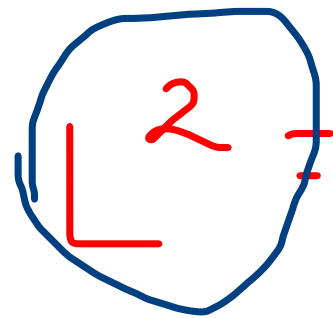
✓
Say, L , or $L^1 = \{a, abc, ba\}$, on $\Sigma = \{a, b, c\}$

a / abc / ba

operation will be performed on one language

Closure = Repetation

L^1 Traverse through the loop only once



All possible combinations

✓
✓
✓
 $aa, aabc, aba,$

✓
✓
✓
 $abcc, abc, abcba, baa,$
 $baab, bab$

$$n = 3$$
$$3^2 = 9$$
$$3^3 = 27$$

