

$$S = \{a, b\}$$

$$L = \{a \ ab \ abb \ abbb \ abbbb \dots\}$$

write the R.E. of this language

$$L = ab^*$$

$$S = \{b\}$$

$$S^* = \{ aA, ab, abb, abbb, abbbb, \dots \}$$

$$S = \{ab\}$$

$$S^* = (ab)^* = \{ A, ab, abab, ababab, abababab, \dots \}$$

$$(ab)^* \qquad ab^*$$

EXAMPLE The language defined by the expression ab^*a

$L_1 = ab^*a$

$b^* = \{A, b, bb, bbb, bbbb, \dots\}$

$L_1 = \{ aAa, aba, abba, abbb a, abbbb a, abbbbb a, a a, a a, a a$

$L_2 = aab^*$

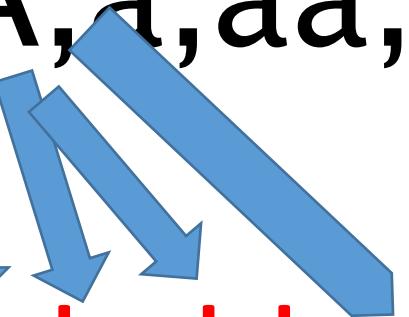
$L_2 = \{ aaA, aab, aabb, aabbb, aa, aa, aa, aa,$

$L_3 = b^*aa$

$L_3 = \{ Aaa, baa, bbaa, bbbbaa, aa, aa, aa$

$$L = a^* b^*$$
$$a^* = \{A, a, aa, aaa, aaaa, aaaaa,$$

... }


$$b^* = \{A, b, bb, bbb, bbbb, \dots\}$$
$$L = \{AA, Ab, Abb, Abbb, aA, ab, abb, \dots\}$$

$L = a^*b^*a^*$

$a^* = \{A, a, aa, aaa, aaaa, aaaaa, \dots\}$

$b^* = \{A, b, bb, bbb, bbbb, \dots\}$

$a^* = \{A, a, aa, aaa, aaaa, aaaaa, \dots\}$

$L = \{AAA, AAa, AAaa, AbA,,$

b

$E = \{x\}$

$L = \{xOdd\}$

$L_1 = x^* = \{A, x, xx, xxx, xxxx, \dots\}$

$L_2 = (xx)^* = \{A, xx, xxxx, xxxxxx, \dots\}$

$L_3 = (xxx)^* = \{A, xxx, xxxxxx, \dots\}$

$L_4 = x(xx)^* = \{\textcolor{red}{x}, \textcolor{red}{xxx}, \textcolor{black}{xxxx}, \dots\}$

Question:- Which one represent $L = \{xEven\}$

1- $x^* xx^*$

2- $x^*(xx)^*$

3- xx^*

4- $(xx)^*$

5-None

6-All of above

R.E.

$$L1 = (x+y) = \{x, y\}$$

$$L2 = (a + b) = \{a, b\}$$

$$L3 = (12 + 17) = \{ 12, 17\}$$

$$L4 = (ab + bb) = \{ab, bb\}$$

$$L5 = (cd + ef + bb) = \{ cd, ef, bb\}$$

R.E.

$$L_1 = (x^* + y) = \{A, x, xx, xxx, xxxx, \dots, y\}$$

$$x^* = \{ A, x, xx, xxx, xxxx, \dots \}$$

R.E.

$L_1 = (ab^* + b^*) = \{aA, ab, abb, abbb, abbbb, abbbbb, \dots, A, b, bb, bbb, bbbb, \dots\}$

$ab^* = \{aA, ab, abb, abbb, abbbb, abbbbb, \dots\}$