

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

$$L = \{a \text{ ab abb abbb abbbb ...} \}$$

write the R.E. of this language

$$L = ab^*$$

$$S = \{b\}$$

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

$$S = \{ab\}$$

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

$$(ab)^* \quad ab^*$$

EXAMPLE The language defined by the expression ab^*a

$L1 = ab^*a$

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

$L1 = \{ aAa, aba, abba, abbb a, abbbb a, abbbbb a, a a, a a, a a$

$L2 = aab^*$

$L2 = \{ aaA, aab, aabb, aabbb, aa, aa, aa, aa, aa,$

$L3 = b^*aa$

$L3 = \{ Aaa, baa, bbaa, bbaaa, aa, aa, aa, aa$

$L = a^*b^*$

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

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

$L = \{AA, Ab, Abb, Abbb, aA, ab, abb, \dots\}$

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

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

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

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

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

b

$$E = \{x\}$$

$$L = \{x\mathbf{0}dd\}$$

$$L1 = x^* = \{A, x, xx, xxx, xxxx, \dots\}$$

$$L2 = (xx)^* = \{A, xx, xxxx, xxxxxx, \dots\}$$

$$L3 = (xxx)^* = \{A, xxx, xxxxxx, \dots\}$$

$$L4 = x(xx)^* = \{x, xxx, xxxxx, \dots\}$$

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.

$$L1 = (x^* + y) = \{A, x, xx, xxx, xxxx, \dots, y\}$$

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

R.E.

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

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