

13th

Assignment for the following languages

- Design regular expression for the following languages
- language whose length is at most 3
- language of even length.
- language starting and ending with different letter

Ans

a) at most three = $\{\epsilon, 1, 2, 3\}$

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

$L = \{\epsilon, a, b, aa, ab, ba, bb, aaa, aba,$

$baa, bbb\}$

$= (\epsilon + a + b) (\epsilon + a + b) (\epsilon + a + b)$

b) of ~~even~~ even length

$L = \{0, 2, 4, 6, \dots\}$

$= (a + b)(a + b)^*$

c) ~~$a^*b^*a^*$~~ ~~$a^*b^*a^*$~~ ~~$a^*b^*a^*$~~ $a(a + b)^*b + b(a + b)^*a$