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**Actividad 3.1 Practicando los lenguajes regulares**

4.- Let X = {aa, bb} and Y = {λ, b, ab}.

a) List the strings in the set XY.

**XY = aa, bb, aab, bbb, aaab, bbab**

b) How many strings of length 6 are there in X\*?

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c) List the strings in the set Y\* of length three or less.

**λ, b, ab, bb, bab, abb, bbb**

d) List the strings in the set X\*Y\* of length four or less

**λ, b, ab, aa, bb, aab, bbb, aaab, aabb,**

14.- The set of strings over {a,b,c} in which all the a’s procede the b’s, which in turn precede the c’s. It is possible that there are no a’s, b’s, or c’s.

**a\*b\*c\***

15.- The same set as Exercise 14 without the null string.

**aa\*b\*c\*|a\*bb\*c\*|a\*b\*cc\***

16.- The set of strings over {a, b, c} with length three.

**(a+b+c)(a+b+c)(a+b+c)**

17.- The set of strings over {a, b, c} with length less than three.

**(Epsilon+a+b+c)(Epsilon+a+b+c)**

18.- The set of strings over {a, b, c} with length greater than three.

**(a+b+c)(a+b+c)(a+b+c)(a+b+c)(a+b+c)\***

19.- The set of strings over {a, b} that contain the substring ab and have length greater than two.

**L(R) = { w | w => (a+b)\* (ab) (a+b)\* / (ab)}**

Fuente: T.A. Sudkamp. Languages and Machines: An Introduction to the Theory of Computer Science. Pearson, 3rd Edition (2005), pp. 59‐61.