

Teoría de Autómatas y Lenguajes Formales

Práctica 1: Latex y expresiones regurales

Raquel, Contreras Rosa

October 31, 2022

1 Práctica obligatoria

1.1 Power of a relation R^n

Definición 1.1. Power of a relation R^n

Given $R \subseteq A \times A$,

$$R^n = \begin{cases} R & n = 1 \\ \{(a, b) : \exists x \in A, (a, x) \in R^{n-1} \wedge (x, b) \in R\} & n > 1 \end{cases}$$

Ejemplo 1.1. Find the power set R^3 of $R = (1, 1), (1, 2), (2, 3), (3, 4)$. Applying the previous definition we get that the power set is:

$$\begin{aligned} R^2 &= \{(1, 1), (1, 2), (1, 3), (2, 4)\} \\ R^3 &= \{((1, 1), (1, 2), (1, 3), (1, 4))\} \end{aligned}$$