

Theory of Computation, CSCI 438 spring 2022
Regular expressions, pg. 63-66, Jan. 26

Definition of a regular expression

Basis:

- a where $a \in \Sigma$ is a regular expression
- ϵ is a regular expression
- Φ is a regular expression

Recursion:

Where R_1 and R_2 are regular expressions

- $R_1 \cup R_2$ is a regular expression
- $R_1 \circ R_2$ is a regular expression (often written without \circ)
- R_1^* is a regular expression

(Definition 1.52, page 64)

Note that ϵ describes the language which has a single element, the empty string.
 Φ defines the empty language.

For regular expression R , $\mathcal{L}(R)$ is the language that R describes.