

Meet - TOC Lecture (1st Sept, 2020, Tue) - Mozilla Firefox

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REC R Gururaj is presenting

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• We use Regular Expressions as means of representing certain subsets of strings over Σ .

• Regular Expressions are used to describe languages that consist of set of strings.

• They describe languages exclusively by means of single symbols and u and $*$.

• They are useful for representing certain sets of string in algebraic fashion.

• Actually these describe the languages accepted by FA.

• We see $\Sigma U \{ (,), U, \Phi, * \}$ in Regular Expressions.

• Every regular expression represents a language.

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$\Sigma = \{a, b\}$ valid RE on Σ contains $\{a, b, (,), U, *, \Phi\}$

x is an RE $a \{ (a, b) \Phi \}$

y is an RE $b \{ (a, b) a^*, b^* \}$ also RE

Here $*$ \leftarrow each symbol is valid as RE

RE and Language \rightarrow established by a function h

$\alpha - RE, L(\alpha)$ is a language represented by α

Language can have the symbols in the RE, and some from outside.

$() \rightarrow$ not an RE, as at least Φ should be there

We define the L function as follows.

1. $L(\Phi) = \Phi$ and $L(a) = \{a\}$ for each a of Σ .

2. If α and β are REs then then $L(\alpha\beta) = L(\alpha) \cdot L(\beta)$

3. If α and β are REs then then $L(\alpha U \beta) = L(\alpha) U L(\beta)$

4. If α is a REs then then $L(\alpha^*) = L(\alpha)^*$

$L(\alpha)$ is RE $\rightarrow L(\alpha^*)$ is also RE and

a is a symbol of Σ

Concatenation of 2 languages

an RE

