

ABSTRACT

GROUP THEORY OF EXTENDED LANGUAGES AND ITS APPLICATION TO THE METHOD OF QUOTIENTS

With regards to algebraic structure, formal language theory in theoretical computer science is best known to be related to monoids, that is, a closed set with the associative property and an identity element with respect to string concatenation. By defining a string inverse, we promote the structure of strings in what we call extended languages to form a group and explore their group theoretic properties. We also revisit the theory of the method of quotients from this mathematical viewpoint.

Jason Paul Terry
August 2005