

SEMI-AUTOMATON AND AUTOMATON USING SMARANDACHE GROUPOIDS

W.B. Vasantha Kandasamy and Moon Kumar Chetry

The construction of semi-automation and automaton which can perform sequential operations uses only the basic algebraic structure viz. free semigroups or to be more specific free monoids. Now in this paper we use in these constructions, groupoids in particular Smarandache free groupoids to study them. This study was first initiated in 2002 by W.B.Vasantha. Here we describe the construction of semi-automaton and automaton built using Smarandache free groupoids which we call as Smarandache semi-automaton (S-semi-automaton) and Smarandache automaton (S-automaton). We show that the machine equipped with S-semi-automaton (S-automaton) can use any of the new semi-automaton (or new automaton) as per need. This paper contains several examples of these newly constructed machines.

All Rights Reserved. This work is Copyright © W.B.Vasantha Kandasamy and Moon Kumar Chetry, 2003. Mathematicians can use the above material for research purposes, but the work of the author(s) ***must*** be acknowledged. Violators of copyright, and those indulging in *plagiarism* and *intellectual theft* are liable for strict prosecution.

e-mail: vasantha@iitm.ac.in
web: <http://mat.iitm.ac.in/~wbv>