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## On some classes of semi-binary $H$ -supersets

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**Abstract.** The notion of semi-binary operation “ $*$ ” on a nonempty set  $G$  with respect to its non-empty subset  $H$  were introduced by the authors of [1]. The non-empty set  $G$  is called a “semi-binary  $H$ -superset” with respect to the semi-binary operation “ $*$ ”. In this paper, we formulate the concept of “weak” and “string” semi-binary  $H$ -supersets. We further show that the class of  $\beta$ -languages of order  $n$  [2] forms a weak semi-binary  $R$ -superset and the class of hyper  $\beta$ -languages of order  $n$  forms a strong semi-binary  $R$ -superset where  $R$  is the class of regular languages.

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