BULLETIN OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 84, Number 6, November 1978

RECURSIVELY ENUMERABLE SETS AND DEGREES

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Introduction. G. E. Sacks has remarked that recursion theory is the heart of logic, and recursively enumerable sets form the soul of recursion theory. Although some might challenge these claims, it is clear that recursively enumerable sets have played an important role in logic beginning with the first undecidability results of Gödel [**Gö1**], Church [**Ch**] and Rosser [**Rs**]. Furthermore, the notion of a recursively enumerable set rather than that of a recursive (i.e, computable) function has proved to be the fundamental concept in attempts to generalize classical recursion theory to more general settings, such as admissible ordinals [**Sh4**], [**Le6**], or higher types [**Sa9**].

A subset A of ω (the set of nonnegative integers) is *recursive* (also called *decidable* or *computable*) if there is an algorithm for determining whether a

This is an expanded version of an Invited Address given at the 84th Annual Meeting of the American Mathematical Society in Atlanta, Georgia, on January 5, 1978; received by the editors November 10, 1977 and, in revised form, December 5, 1977.

AMS (*MOS*) *subject classifications* (1970). Primary 02F25, 02F30; Secondary 02F47, 02G05, 02G10, 06A20, 02F50.

[1]The author was partially supported by NSF grant MCS 76-07033 A01.