

ABSTRACT

This thesis begins with a brief survey of some connections between the methods developed in this century for enumerating structures and certain problems in the theory of Schur functions. Computer programmes are then developed for the multiplication and the plethysm of Schur functions. The theorems described in the beginning are then applied to obtain several general theorems on the coefficients in the plethysm and to obtain better algorithms for certain plethysms.

Tables of the plethysms calculated, and a listing of the main systems form appendices to this work.