BASIC CYCLE ROUTINE (BCR)

This subroutine is used to fetch the next section of ALGOL text, and to allow for comments after the delimiters ; and begin. It is controlled by its parameter P as follows:

(1) P = 0,1, or 2 : a certain type of ALGOL section is expected, and this is checked by comparing the final value of the state variable M ;

(ii) P = 3 : no check is made on the type of the ALGOL section; and

(iii) P = 4 ; the subroutine is merely being used to find the next delimiter, such as in an end comment, or during scanning after an error (see FAIL). The constituents of identifiers and numbers need not therefore be processed.

BCR itself uses several subroutines. First it calls TAKCHA, which brings up the next character which is tested to distinguish between delimiters, numbers and identifiers.

A ~ (or " in 903 ALGOL) announces an ALGOL word (see Notes on Internal Character Set), such as ~ b e g i n ~ . This is operated upon by the subroutine EVALNA to convert the string of characters into an integer, and the delimiter list is then searched. If the delimiter is comment, further characters are taken until ; is met, which ends the comment. If the delimiter is true or false CONS, M, and CONSTA are set. Otherwise this joins the basic symbol path.

If this character is a basic sysmbol, the symbol list is searched, P is checked where necessary and the routine finishes.

If this character is a digit, decimal point or 10, NUMBER is called to place this number in the variable CONSTA.

Similarly in the case of a letter, IDENT is called to place this identifier in the variable NAM.

ERRORS

FAIL 13; comment does not follow; or begin.

FAIL 11; letter, digit, '.' or '10' misused.

FAIL 10; identifier or constant not as expected.

FAIL 12; true or false preceded by constant or identifier.

FAIL 33;] or) precedes constant or identifier.

FAIL 15; unrecognised ALGOL word (EVALNA).