Identification
Validation-level utility routines
get_level, set_level
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Purpose
In the context of the Multics protection mechanism, the "validation level" is a number which represents either the ring number of the caller in the last inter-ring call in the process at hand or a number higher than that ring number. (If the latter, the assumption is that the validation level was raised by the caller because it was operating in behalf of a caller of its own which resides in an outer ring relative to it.) See BD.9.00 for general considerations regarding possible uses of the validation level, and BD.9.03 for an important specific application. The present (assembly-language) procedures are provided in order to facilitate the reading and writing of the fixed location for the validation level from compiler languages, which do not in general allow for easy direct reference to the base of the call-save-return Stack, where the validation level is stored (at sb|3).

Usage
The calling sequence is
   call get_level(n);

or
   call set_level(n);

with declaration
   dcl n fixed bin (17);
where
   n is the value read from sb|3 in the get_level case,
   and is the value to be written into sb|3 in the set_level case.
Comment

The Gatekeeper (see BD.9.01) will not pass a validation level lower than the calling-ring's number during an inter-ring call.

Implementation

Procedure get_level returns the contents of sb|3 in its argument. Procedure set_level writes its argument into sb|3.