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### Identification

Symbolic reference to unavailable graphic character constants  
upper\_case\_char, punctuation\_char.  
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### Purpose

This section describes two library data segments, upper\_case\_char and punctuation\_char, for symbolic reference to graphic characters currently unavailable in character-string constants; it is to be withdrawn when all ASCII graphics are available in EPL, or when full PL/I arrives.

### Background

Although the data character set for EPL is full 7-bit ASCII, at this writing the 26 upper-case alphabetic graphics and 12 of the punctuation-type graphics may not appear in EPL character-string literals. Specifically the upper-case alphabet maps into its lower-case counterpart, while the 12 non-language-character-set graphics map into the percent sign (% , octal 045). Until this situation is changed, either with later versions of EPL or the appearance of full PL/I, these graphics will be available symbolically in a similar manner to those in the data segment ctl\_char (BY.8.01).

### Usage

For each character which a program wishes to reference, the following declaration would appear

```
    dcl upper_case_char$lower_case_graphic char(1) ext;
```

or

```
    dcl punctuation_char$character_name char(1)ext;
```

For the upper-case characters, lower\_case\_graphic is simply the single lower-case counterpart of the desired character, e.g. "a". For punctuation characters, the graphics, names, and octal values are given below.

Graphic	Name	Octal Value
!	exclamation_point	041
#	number_sign	043
%	percent	045
/	acute_accent	047
@	commercial_at	100
[	open_bracket	133
\	left_slant	134
]	close_bracket	135
^	circumflex	136
`	grave_accent	140
{	open_brace	173
}	close_brace	175

### Implementation

These segments are created in essentially similar fashion as `ctl_char` (BY.8.01).