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Identification

The *substr* built-in function and pseudo-variable.
substr_$sscs_, substr_$ssbs_.
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Purpose

See the PL/I manual (IBM form C28-6571-3, pp. 103 and 153) for a discussion of the *substr* function. In the implementation of *substr* the EPL compiler uses the procedure described here to make up a dummy dope vector for a substring of a character- or bit-string. Substr_ cannot be used directly in an EPL program because its calling sequence is (and must be) peculiar.

Usage

The two possible calls are:

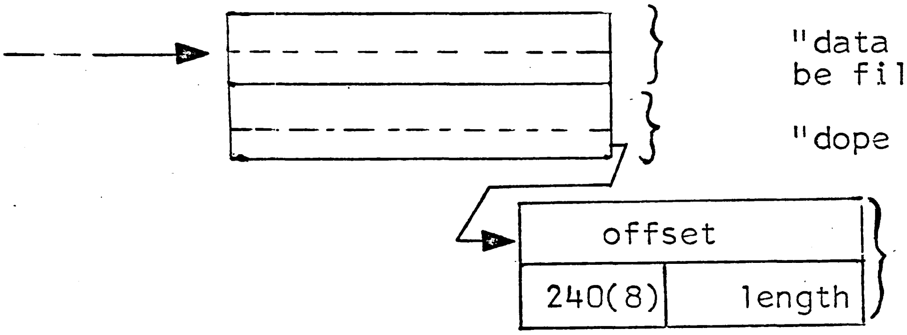
```
     call substr_$ssbs_(i,j,b1,spec);

     call substr_$sscs_(i,j,c1,spec);
```

B1 is a bit-string, varying or non-varying. C1 is a character-string, varying or non-varying. *B1* or *c1* corresponds to *s* in the PL/I manual's description of the *substr* function. *I* and *j* correspond to the *i* and *j* in that description. They are declared,

```
     dcl (i,j) fixed bin (24);
```

Spec is a dummy specifier: the argument pointer points to:



"data pointer": an *its* pair to be filled in by substr_.

"dope pointer"

dope vector: entire contents to be filled in by substr_.

See BP.2.01 for a discussion of specifiers and dope. Substr_ stores values into "data pointer" and the dope vector so that *spec* becomes a specifier for the appropriate substring of the given string.

The statement

```
     a = substr(b,i,j);
```

might be implemented as the following calls:

```
     call substr_$sscs_(i,j,b,spec);

     call stgop_$cscs_(spec,a);
```

(See BN.7.04 for a description of stgop_$cscs_.)

The statement

```
     substr(b,i,j)=a;
```

might be implemented as the following calls:

```
     call substr_$sscs_(i,j,b,spec);

     call stgop_$cscs_(a,spec);
```

The above implementation, however, is not satisfactory for the following statement, if a is a non-varying string.

```
     substr(a,i,j)=a;
```

Here the danger is that the move from a to the substring may "clobber" parts of a.