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Portable Conversion Between Type CHARACTER and Type INTEGER

CHTOI converts between a CHARACTER*1 value in a 95–character set and INTEGER values in the range 32–126 via a look-up table.

Structure:

SUBROUTINE subprogram
User Entry Names: CHTOI, ITOCH

Usage:

```
CALL CHTOI(CHAR,INTGR,*label)
```

CHAR — (CHARACTER*1) Variable or constant (may be a substring of a longer string) containing on input the character for which the integer equivalent is required.

INTGR — (INTEGER) Variable which will contain on output the integer equivalent from a look-up table of the input character argument. A zero will be returned if the character was not found in the table.

label — (INTEGER) Label of an executable statement within the calling program to which control will be transferred should the input character not be found in the table.

```
CALL ITOCH(INTGR,CHAR,*label)
```

CHAR — (CHARACTER*1) variable which will contain on output the character equivalent from a look-up table of the input integer argument. A question mark will be returned if the integer is outside the range 32 − 126 inclusive.

INTGR — (INTEGER) variable or constant containing on input an integer in the range 32 − 126 for which the character equivalent is required.

label — (INTEGER) Label of an executable statement in the calling program to which control will be transferred should the input integer be outside the range 32 − 126.

Method:

A look-up table containing 95 entries is mapped consecutively into integers 32 – 126. The table is as follows:

```
 32- 47:   ! " # $ % & ' ( ) * + , - . / (32 is a blank)
 48- 57: 0 ... 9
 58- 64: : ; < = > ? @
 65- 90: A ... Z
 91- 96: [ \ ] ^ _ `
 97-122: a ... z
123-126: { | } ~
```

Restrictions:

This routine is typed in Fortran on a system which includes all the above characters. Systems with fewer characters available usually make some local translation when they read the source for example on CDC NOS/BE the lower case letters are translated to upper case. Exact reproducibility of other than the subset of characters is not guaranteed.

Notes:

These integer values are the same as for the 8-bit `ASCII` set.

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