NAME
     intro — introduction to subroutines and libraries

SYNOPSIS
     #include <stdio.h>
     #include <math.h>

DESCRIPTION
     This section describes functions that may be found in various libraries, other than those func-
     tions that directly invoke UNIX system primitives, which are described in Section 2 of this
     volume. Functions of certain major collections are identified by a letter after the section
     number at the head of the page:

     (3C) These functions, together with those of Section 2 and those marked (3S), constitute
           library *libc,* which is automatically loaded by the C compiler, *cc*(1). The link editor *ld*(1)
           searches this library under the −lc option. Declarations for some of these functions
           may be obtained from "include" files indicated on the appropriate pages.

           Since this release contains two versions of the C compiler, there are two versions of the
           C libraries supplied (*libc.a* for *cc*(1) and *liboc.a, liboa.a,* and *liboS.a* for *occ (1)).* The
           contents of the libraries are identical in interface and function unless otherwise indicated.
           Any differences are documented as follows: any manual page whose name does not end
           with :O is in the standard C library. If the routine is not the same in the old library,
           there will be another version of the manual page suffixed with :O. If the routine exists
           only in the old version of the library, there will exist only a manual page suffixed with
           :O.

     (3M) These functions constitute the math library, *libm.* They are automatically loaded as
           needed by the Fortran compiler *f77*(1). The link editor searches this library under the
           −lm option. Declarations for these functions may be obtained from the "include" file
           <math.h>.

     (3S) These functions constitute the "standard I/O package," see *stdio*(3S). These functions
           are in the library *libc,* already mentioned. Declarations for these functions may be
           obtained from the "include" file <stdio.h>.

     (3X) Various specialized libraries. The files in which these libraries are found are named on
           the appropriate pages.

FILES
     /lib/libc.a
     /lib/liboc.a
     /lib/liboa.a
     /lib/liboS.a
     /lib/libm.a
     /lib/libplot.a

SEE ALSO
     ar(1), cc(1), occ(1), f77(1), ld(1), nm(1), intro(2), stdio(3S), ostdio(3S), lib7(3X), libil(3X).

DIAGNOSTICS
     Functions in the math library (3M) may return conventional values when the function is
     undefined for the given arguments or when the value is not representable. In these cases, the
     external variable *errno* (see *intro*(2)) is set to the value EDOM or ERANGE.

ASSEMBLER
     In assembly language, these functions may be accessed by simulating the C calling sequence.
     For example, *ecvt*(3C) might be called as follows:

```
       .globl  _ecvt
          .
          .
          .
       setd
       mov     $sign,−(sp)
       mov     $decpt,−(sp)
       mov     ndigit,−(sp)
       movf    value,−(sp)
       jsr     pc,_ecvt
       add     $14.,sp
```