f90_unix_dirent: Unix Directory-reading Operations Module

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1 Name

`f90_unix_dirent` — Module of Unix directory-reading operations

2 Usage

USE F90_UNIX_DIRENT

This module contains part of a Fortran API to functions detailed in ISO/IEC 9945-1:1990 Portable Operating System Interface (POSIX) - Part 1: System Application Program Interface (API) [C Language].

The functions in this module are from Section 5.1.2: Directory Operations

Error handling is described in `F90_UNIX_ERRNO`. Note that for procedures with an optional `ERRNO` argument, if an error occurs and `ERRNO` is not present, the program will be terminated.

All the procedures in this module are specific and not generic.

3 Synopsis

Generic Procedures
    CLOSEDIR, OPENDIR, READDIR, REWINDDIR.

4 Procedure Description

In the description of each procedure, an argument whose `KIND` is denoted by '*' can accept any kind of that type. Other `KIND` indications use the named parameters from the `F90_KIND` or `F90_UNIX_ERRNO` modules; these named parameters are not, however, exported from `F90_UNIX_DIRENT`.

```
SUBROUTINE CLOSEDIR(DIRUNIT,ERRNO)
INTEGER(*),INTENT(IN) :: DIRUNIT
INTEGER(error_kind),OPTIONAL,INTENT(OUT) :: ERRNO
```

Close a directory stream that was opened by `OPENDIR`.

If `DIRUNIT` does not refer to an open directory stream, error `EBADF` (see `F90_UNIX_ERRNO`) is raised.

```
SUBROUTINE OPENDIR(DIRNAME,DIRUNIT,ERRNO)
CHARACTER(*),INTENT(IN) :: DIRNAME
INTEGER(*),INTENT(OUT) :: DIRUNIT
INTEGER(error_kind),OPTIONAL,INTENT(OUT) :: ERRNO
```

Opens a directory stream, returning a handle to it in `DIRUNIT`.

Possible errors include `EACCES`, `ENAMETOOLONG`, `ENOENT`, `ENOTDIR`, `EMFILE` and `ENFILE` (see `F90_UNIX_ERRNO`).

```
SUBROUTINE READDIR(DIRUNIT,NAME,LENNAME,ERRNO)
INTEGER(*),INTENT(IN) :: DIRUNIT
CHARACTER(*),INTENT(OUT) :: NAME
INTEGER(int32 or int64),INTENT(OUT) :: LENNAME
INTEGER(error_kind),OPTIONAL,INTENT(OUT) :: ERRNO
```

Reads the first/next directory entry. The name of the file is placed into `NAME`, blank-padded or truncated as appropriate if the length of the file name differs from `LEN(NAME)`. The length of the file name is placed in `LENNAME`.

If there are no more directory entries, `NAME` is unchanged and `LENNAME` is negative.

If `DIRUNIT` is not a directory stream handle produced by `OPENDIR`, or has been closed by `CLOSEDIR`, error `EBADF` (see `F90_UNIX_ERRNO`) is raised.

```
SUBROUTINE REWINDDIR(DIRUNIT,ERRNO)
INTEGER(*),INTENT(IN) :: DIRUNIT
INTEGER(error_kind),OPTIONAL,INTENT(OUT) :: ERRNO
```

Rewinds the directory stream so that the next call to `READDIR` on that stream will return the name of the first file in the directory.

5 See Also

f90_unix_env(3), **f90_unix_errno**(3), **intro**(3), **nag_modules**(3), **nagfor**(1).

6 Bugs

Please report any bugs found to 'support@nag.co.uk' or 'support@nag.com', along with any suggestions for improvements.