

Standard intrinsic module ISO_FORTRAN_ENV

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1 Name

`iso_fortran_env` — standard intrinsic module

2 Usage

```
USE, INTRINSIC :: ISO_FORTRAN_ENV
```

(The `, INTRINSIC ::` part is optional, unless there is a user-defined module with the same name.)

3 Synopsis

ISO_FORTRAN_ENV provides named constants describing the Fortran environment.

Kind parameter values for specific types are provided by `INT8`, `INT16`, `INT32`, `INT64`, `REAL32`, `REAL64` and `REAL128`. Arrays listing all valid kind parameter values for each type are provided by `CHARACTER_KINDS`, `INTEGER_KINDS`, `LOGICAL_KINDS` and `REAL_KINDS`.

Storage units are described by `CHARACTER_STORAGE_SIZE` and `NUMERIC_STORAGE_SIZE`.

Input/output units are described by `ERROR_UNIT`, `INPUT_UNIT` and `OUTPUT_UNIT`.

The `RECL=` specifier for the `INQUIRE` and `OPEN` statements is described by `FILE_STORAGE_SIZE`.

`IOSTAT=` return values are described by `IOSTAT_END` and `IOSTAT_EOR`. These and many other `IOSTAT=` return values are provided by the intrinsic module `F90_IOSTAT` (except that it provides `IOSTAT_EOF` instead of `IOSTAT_END`).

4 Parameter Descriptions

```
INTEGER,PARAMETER :: character_kinds(4) = [ KIND('A'), &  
                                             SELECTED_CHAR_KIND('JIS_0213'), &  
                                             SELECTED_CHAR_KIND('UCS_2'), &  
                                             SELECTED_CHAR_KIND('ISO_10646') ]
```

Array listing all valid kind type parameter values for `CHARACTER` type.

```
INTEGER,PARAMETER :: character_storage_size = 8
```

The size of a character storage unit in bits.

```
INTEGER,PARAMETER :: error_unit = 0
```

The standard error reporting unit number.

```
INTEGER,PARAMETER :: file_storage_size = 8
```

The size of a file storage unit (used by RECL= in OPEN and INQUIRE) in bits.

```
INTEGER,PARAMETER :: input_unit = 5
```

The standard input unit number. This is the one used by READ with an asterisk (*) unit.

```
INTEGER,PARAMETER :: int8 = SELECTED_INT_KIND(2)
```

The kind parameter value for an 8-bit integer.

```
INTEGER,PARAMETER :: int16 = SELECTED_INT_KIND(4)
```

The kind parameter value for a 16-bit integer.

```
INTEGER,PARAMETER :: int32 = SELECTED_INT_KIND(9)
```

The kind parameter value for a 32-bit integer.

```
INTEGER,PARAMETER :: int64 = SELECTED_INT_KIND(18)
```

The kind parameter value for a 64-bit integer.

```
INTEGER,PARAMETER :: integer_kinds(4) = [ int8,int16,int32,int64 ]
```

Array listing all valid kind type parameter values for INTEGER type.

```
INTEGER,PARAMETER :: iostat_end = -1
```

The IOSTAT= return value for end of file.

```
INTEGER,PARAMETER :: iostat_eor = -2
```

The IOSTAT= return value for end of record.

```
INTEGER,PARAMETER :: logical_kinds(4) = integer_kinds
```

Array listing all valid kind type parameter values for LOGICAL type.

```
INTEGER,PARAMETER :: numeric_storage_size = BIT_SIZE(0)
```

The size of a numeric storage unit in bits.

```
INTEGER,PARAMETER :: output_unit = 6
```

The standard output unit number. This is the one used by `PRINT`, and by `WRITE` with an asterisk (`'*`') unit.

```
INTEGER,PARAMETER :: real32 = SELECTED_REAL_KIND(6)
```

The kind parameter value for a 32-bit real.

```
INTEGER,PARAMETER :: real64 = SELECTED_REAL_KIND(15)
```

The kind parameter value for a 64-bit real.

```
INTEGER,PARAMETER :: real128 = SELECTED_REAL_KIND(30)
```

The kind parameter value for a 128-bit real.

```
INTEGER,PARAMETER :: real_kinds(3) = [ real32,real64,real128 ]
```

Array listing all valid kind type parameter values for `REAL` type.

5 Files

The source code for this module may be found in the NAG Fortran runtime library directory (usually `/usr/local/lib/NAG_Fortran`).

6 See Also

`f90_iostat(3)`, `f90_kind(3)`, `nag_modules(3)`.

7 Bugs

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

8 Author

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