mxClassID (C)

Enumerated value identifying class of array

C Syntax

```
typedef enum {
        mxUNKNOWN_CLASS,
        mxCELL_CLASS,
        mxSTRUCT_CLASS,
        mxLOGICAL_CLASS,
        mxCHAR_CLASS,
        mxVOID_CLASS,
        mxDOUBLE_CLASS,
        mxSINGLE_CLASS,
        mxINT8_CLASS,
        mxUINT8_CLASS,
        mxINT16_CLASS,
        mxUINT16_CLASS,
        mxINT32_CLASS,
        mxUINT32_CLASS,
        mxINT64_CLASS,
        mxUINT64_CLASS,
        mxFUNCTION_CLASS
} mxClassID;
```

Constants

`mxUNKNOWN_CLASS`

Undetermined class. You cannot specify this category for an `mxArray`; however, if `mxGetClassID` cannot identify the class, it returns this value.

`mxCELL_CLASS`

Identifies a cell `mxArray`.

`mxSTRUCT_CLASS`

Identifies a structure `mxArray`.

`mxLOGICAL_CLASS`

Identifies a logical `mxArray`, an `mxArray` of `mxLogical` data.

`mxCHAR_CLASS`

Identifies a string `mxArray`, an `mxArray` whose data is represented as `mxChar`.

`mxVOID_CLASS`

Reserved.

`mxDOUBLE_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB® Primitive Types table.

`mxSINGLE_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxINT8_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxUINT8_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxINT16_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxUINT16_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxINT32_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxUINT32_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxINT64_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxUINT64_CLASS`

Identifies a numeric `mxArray` whose data is stored as the type specified in the MATLAB Primitive Types table.

`mxFUNCTION_CLASS`

Identifies a function handle `mxArray`.

Description

Various MX Matrix Library functions require or return an `mxClassID` argument. `mxClassID` identifies the way in which the `mxArray` represents its data elements.

The following table shows MATLAB types with their equivalent C types. Use the type from the right-most column for reading `mxArray`s with the `mxClassID` value shown in the left column.

MATLAB Primitive Types

mxClassID Value	MATLAB Type	MEX Type	C Primitive Type
mxINT8_CLASS	int8	int8_T	char, byte
mxUINT8_CLASS	uint8	uint8_T	unsigned char, byte
mxINT16_CLASS	int16	int16_T	short
mxUINT16_CLASS	uint16	uint16_T	unsigned short
mxINT32_CLASS	int32	int32_T	int

mxClassID Value	MATLAB Type	MEX Type	C Primitive Type
mxUINT32_CLASS	uint32	uint32_T	unsigned int
mxINT64_CLASS	int64	int64_T	long long
mxUINT64_CLASS	uint64	uint64_T	unsigned long long
mxSINGLE_CLASS	single	float	float
mxDOUBLE_CLASS	double	double	double

Examples

See the following examples in *matlabroot*/extern/examples/mex.

- **explore.c**

See Also

mxGetClassID, **mxCreateNumericArray**