

cMatrixf

Constructors

Constructor	Description
cMatrixf()	Creates a matrix with default values.
cMatrixf(cVector4f, cVector4f, cVector4f, cVector4f)	Creates a matrix using the given vectors as column data.
cMatrixf(float, float, float, float, float, float, float, float, float, float, float, float, float, float, float)	Creates a matrix using the given values as cell data. (Warning: This constructor is bugged.)

Fields

cMatrixf has no public fields.

Functions

Return Type	Function Name	Parameters	Description
float	GetElement	uint64, uint64, const	
cVector3f	GetRight	const	
void	SetRight	const cVector3f &in avVec	
cVector3f	GetUp	const	
void	SetUp	const cVector3f &in avVec	
cVector3f	GetForward	const	
void	SetForward	const cVector3f &in avVec	
cVector3f	GetTranslation	const	
void	SetTranslation	const cVector3f &in avTrans	
void	SetRotation	float afXX, float afXY, float afXZ, float afYX, float afYY, float afYZ, float afZX, float afZY, float afZZ	
void	SetRotation	const cMatrixf &in a_mtxRot	
cMatrixf	GetRotation	const	
cMatrixf	GetTranspose	const	

Remarks

To retrieve a value from a matrix, use the GetElement function above. The parameters for the GetElement function use the format GetElement(columnIndex, rowIndex).

```
cMatrixf m1(cVector4f(, 1, 2, 3),
             cVector4f(4, 5, 6, 7),
             cVector4f(8, 9, 10, 11),
             cVector4f(12, 13, 14, 15));

float f = m1.GetElement(1, 2);

// value of f: 9
```

To do matrix computations, use the cMath_MatrixXXX line of functions in the hpl_api.hps file.

```
cMatrixf m1(cVector4f(1, 1, 1, 1),
             cVector4f(2, 2, 2, 2),
             cVector4f(3, 3, 3, 3),
             cVector4f(4, 4, 4, 4));

cMatrixf m2(cVector4f(5, 5, 5, 5),
             cVector4f(6, 6, 6, 6),
             cVector4f(7, 7, 7, 7),
             cVector4f(8, 8, 8, 8));

cMatrixf m3 = cMath_MatrixMul(m1, m2);

// value of m3: { 26, 26, 26, 26,
//                52, 52, 52, 52,
//                78, 78, 78, 78,
//                104, 104, 104, 104 }
```

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