PACKAGE

CLASS

PREV CLASS   FRAMES   ALL CLASSES

NEXT CLASS   NO FRAMES

SUMMARY:
NESTED |
FIELD |
CONSTR |
METHOD
DETAIL:
FIELD |
CONSTR |
METHOD

Class Matrix

java.lang.Object
    Matrix

```
public class Matrix
extends java.lang.Object
```

Constructor Summary

Constructors

Constructor and Description
Matrix(int[][] data) Matrix value constructor

Method Summary

All Methods	Instance Methods	Concrete Methods

Modifier and Type	Method and Description
Matrix	**add**(**Matrix** other) Addition of 2 matrices
void	**addCol**(java.util.ArrayList<java.lang.Integer> data)
void	**addRow**(java.util.ArrayList<java.lang.Integer> data)

int	**colMeans**(int col)	
int[]	**get**(int i) gets the row at row position	
int	**get**(int i, int j) Gets the value at (i, j)	
int	**getColCount**() Retrieve the number of columns in the matrix	
int	**getRowCount**() Retrieve the number of rows in the matrix	
boolean	**isSymmetric**() Checks if the matrix is a symmetric matrix	
Matrix	**mult**(**Matrix** other) cross product / matrix multiplication of 2 matrices	
void	**set**(int i, int j, int val) Set the value of position (i, j) to val	
Matrix	**sub**(**Matrix** other) Subtraction of 2 matrices	
java.lang.String	**toString**() Returns a String representation of a Matrix	
Matrix	**transpose**() A new matrix with all the elements at (x, y) to (y, x)	

Methods inherited from class java.lang.Object

equals, getClass, hashCode, notify, notifyAll, wait, wait, wait

Constructor Detail

Matrix

```
public Matrix(int[][] data)
```

Matrix value constructor

Parameters:

```
data - lists of lists which will become rows of the matrix
```

Method Detail

get

```
public int get(int i,
               int j)
```

Gets the value at (i, j)

Parameters:

```
i - row number
```

```
j - col number
```

Returns:

```
value at position
```

set

```
public void set(int i,
                int j,
                int val)
```

Set the value of position (i, j) to val

Parameters:

```
i - row number
```

```
j - column number
```

```
val - new value
```

getRowCount

```
public int getRowCount()
```

Retrieve the number of rows in the matrix

Returns:

```
number of rows in the matrix
```

getColCount

```
public int getColCount()
```

Retrieve the number of columns in the matrix

Returns:

```
number of columns in the matrix
```

transpose

```
public Matrix transpose()
```

A new matrix with all the elements at (x, y) to (y, x)

Returns:

```
new Matrix which is transpose of original
```

addCol

```
public void addCol(java.util.ArrayList<java.lang.Integer> data)
```

addRow

```
public void addRow(java.util.ArrayList<java.lang.Integer> data)
```

colMeans

```
public int colMeans(int col)
```

Parameters:

col - number of column

Returns:

sum of that col dividied my number of elements

isSymmetric

```
public boolean isSymmetric()
```

Checks if the matrix is a symmetric matrix

Returns:

true if symmetric otherwise false

add

```
public Matrix add(Matrix other)
```

Addition of 2 matrices

Parameters:

other - matrix to add

Returns:

a new matrix which is the addition of 2 matrices

sub

```
public Matrix sub(Matrix other)
```

Subtraction of 2 matrices

Parameters:

other - matrix to subtract

Returns:

```
a new matrix which is the subtraction of 2 matrices
```

mult

```
public Matrix mult(Matrix other)
```

cross product / matrix multiplication of 2 matrices

Parameters:

```
other - matrix to multiplication
```

Returns:

```
a new matrix which is the multiplication of 2 matrices
```

get

```
public int[] get(int i)
```

gets the row at row position

Parameters:

```
i - row number
```

Returns:

```
row
```

toString

```
public java.lang.String toString()
```

Returns a String representation of a Matrix

Overrides:

```
toString in class java.lang.Object
```

Returns:

```
a string representation of the object.
```

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