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org.netlib.lapack

Class Dgesv

```
java.lang.Object
  └org.netlib.lapack.Dgesv
```

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

```
Following is the description from the original
Fortran source.  For each array argument, the Java
version will include an integer offset parameter, so
the arguments may not match the description exactly.
Contact seymour@cs.utk.edu with any questions.
```

```
 *     ..
 *
 *  Purpose
 *  =======
 *
 *  DGESV computes the solution to a real system of linear equations
 *     A * X = B,
 *  where A is an N-by-N matrix and X and B are N-by-NRHS matrices.
 *
 *  The LU decomposition with partial pivoting and row interchanges is
 *  used to factor A as
 *     A = P * L * U,
 *  where P is a permutation matrix, L is unit lower triangular, and U is
 *  upper triangular.  The factored form of A is then used to solve the
 *  system of equations A * X = B.
 *
 *  Arguments
 *  =========
 *
 *  N       (input) INTEGER
 *          The number of linear equations, i.e., the order of the
 *          matrix A.  N >= 0.
 *
 *  NRHS    (input) INTEGER
 *          The number of right hand sides, i.e., the number of columns
 *          of the matrix B.  NRHS >= 0.
 *
 *  A       (input/output) DOUBLE PRECISION array, dimension (LDA,N)
 *          On entry, the N-by-N coefficient matrix A.
 *          On exit, the factors L and U from the factorization
 *          A = P*L*U; the unit diagonal elements of L are not stored.
 *
 *  LDA     (input) INTEGER
```

```
*          The leading dimension of the array A.  LDA >= max(1,N).
*
*  IPIV    (output) INTEGER array, dimension (N)
*          The pivot indices that define the permutation matrix P;
*          row i of the matrix was interchanged with row IPIV(i).
*
*  B       (input/output) DOUBLE PRECISION array, dimension (LDB,NRHS)
*          On entry, the N-by-NRHS matrix of right hand side matrix B.
*          On exit, if INFO = 0, the N-by-NRHS solution matrix X.
*
*  LDB     (input) INTEGER
*          The leading dimension of the array B.  LDB >= max(1,N).
*
*  INFO    (output) INTEGER
*          = 0:  successful exit
*          < 0:  if INFO = -i, the i-th argument had an illegal value
*          > 0:  if INFO = i, U(i,i) is exactly zero.  The factorization
*                has been completed, but the factor U is exactly
*                singular, so the solution could not be computed.
*
*  =====================================================================
*
*     .. External Subroutines ..
```

Constructor Summary
Dgesv()

Method Summary	
static void	**dgesv**(int n, int nrhs, double[] a, int _a_offset, int lda, int[] ipiv, int _ipiv_offset, double[] b, int _b_offset, int ldb, intW info)

Methods inherited from class java.lang.Object
clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Detail

Dgesv

public **Dgesv**()

Method Detail

dgesv

```
public static void dgesv(int n,
                         int nrhs,
                         double[] a,
                         int _a_offset,
                         int lda,
                         int[] ipiv,
                         int _ipiv_offset,
                         double[] b,
                         int _b_offset,
                         int ldb,
                         intW info)
```

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