Random Number Generator in a Range

MATLAB Implementation

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LICENSE

Contents

rand2

Generates a matrix of random numbers between specified lower and upper bounds.

Syntax

```
rand2(a,b)
rand2(a,b,[],typename)
rand2(a,b,[m,n])
rand2(a,b,[m,n],typename)
```

Description

`rand2(a,b)` returns one double-precision floating-point number between a and b.

`rand2(a,b,[],typename)` returns one random number of data type `typename` between a and b. The `typename` input can be `'int'` (integers), `'single'` (single-precision floating point numbers), or 'double' (double-precision floating point numbers).

`rand2(a,b,[m,n])` returns an $m \times n$ matrix of random double-precision floating-point numbers between a and b.

`rand2(a,b,[m,n],typename)` returns an $m \times n$ matrix of random numbers of data type `typename`. The `typename` input can be `'int'` (integers), `'single'` (single-precision floating point numbers), or 'double' (double-precision floating point numbers).

Examples

Example 1

Generate one random double between $a = -2.3$ and $b = 5.5$

SOLUTION

```
X = rand2(-2,5)

X =

    4.7975
```

Example 2

Generate one random single between $a = -20.1$ and $b = -10$

SOLUTION

```
X = rand2(-20.1,-10,[],'single')

X =

  single

  -16.4349
```

Example 3

Generate a 5×1 vector of random integers between $a = -100$ and $b = 100$.

■ *SOLUTION*

```
X = rand2(-100,100,[5,1],'int')

X =

    19
   -52
    69
    72
    93
```

Example 4

Generate a 10×9 matrix of random double between $a = 37.234$ and $b = 49.5869$.

■ *SOLUTION*

```
X = rand2(37.234,49.5869,[10,9])

X =

   41.5783   48.9087   48.2243   43.9763   46.7629   47.8149   47.2225
    48.2973   46.3959
   47.1503   46.3074   42.5047   41.7195   46.2046   40.6686   39.8432
    45.5151   47.0909
   46.9132   48.7850   38.0038   47.1557   39.3809   39.4256   43.5242
    48.5833   44.3081
   44.1270   40.5826   43.9497   44.0783   47.0463   40.4757   48.9926
    42.8177   46.7184
   40.8926   43.8141   40.2850   48.5330   38.2767   41.8502   41.9095
    48.3437   41.6195
   45.4862   38.5658   40.4121   47.8212   42.5587   41.1579   38.5179
    38.0642   40.4581
   40.5702   46.3256   41.5839   41.9215   46.0455   48.2024   40.3503
    44.7134   41.4362
   43.0207   44.6218   39.0554   44.0104   46.5951   38.5645   42.3762
    46.8118   44.4298
   42.2302   47.4289   46.2229   41.8135   42.0401   44.5193   41.6703
    40.5628   47.1291
```

```
   43.9246   48.8710   46.2336   44.8508   46.1935   39.7919   40.5256
    48.2572   41.1951
```

Links

MATLAB® Central's File Exchange:
https://www.mathworks.com/matlabcentral/fileexchange/85423-random-number-generator-in-a-range-rand2

GitHub®:
https://github.com/tamaskis/rand2-MATLAB