

## Random

INHERITS FROM

Object

### CLASS DESCRIPTION

The Random class provides services for random number generation and die rolling. It implements its own random number generator with a cycle length of 8.8 trillion. The algorithm used by the Random class is that given in the article:

<sup>a</sup>A Higly Random Random±Number Generator<sup>o</sup> by T.A. Elkins  
Computer Language, Volume 6, Number 12 (December 1989), Pages 59-65

Published by:

Miller Freeman Publications  
500 Howard Street  
San Francisco, CA 94105  
(415) 397-1881

This is Version 1.0 of Random, distributed 1991 May 30.

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## INSTANCE VARIABLES

<i>Declared in Random</i>	int	h1, h2, h3;
h1, h2, h3	The current seed values	

## METHOD TYPES

Creating and freeing instances	+ alloc - free
Initializing a new instance	- init - initSeeds:::
Seed operations	- newSeeds - setSeeds::: - getSeeds:::
	Getting random numbers - rand - randMax: - randMin:max: - percent
Rolling dice	- rollDie: - roll:die: - rollBest:of:die:

Archiving

- read:
- write:

## CLASS METHODS

### **alloc**

- + **alloc**

Returns a new instance.

## INSTANCE METHODS

### **free**

- **free**

Frees the memory occupied by the Random and returns **nil**.

### **getSeeds:::**

- **getSeeds:(int \*)s1 :(int \*)s2 :(int \*)s3**

Puts the values of the seeds into the integer variables pointed to.

See also: ± **setSeeds:::**

### **init**

- **init**

Initializes the Random with seeds from the milliseconds count of the system clock (uses **newSeeds**).

See also: ± **initSeeds:::**, ± **newSeeds**

### **initSeeds:::**

- **initSeeds:(int)s1 :(int)s2 :(int)s3**

Initializes the Random with the seeds given (uses **setSeeds**).

See also: ± **init**, ± **newSeeds**, ± **setSeeds:::**

**newSeeds**

- **newSeeds**

Sets the seeds from the milliseconds count of the system clock.

See also:  $\pm$  **init**

**percent**

- (float)**percent**

Returns a float in the range [0.0, 1.0].

**rand**

- (int)**rand**

Returns an int in the range [0, 32767].

**randMax:**

- (int)**randMax:(int)max**

Returns an int in the range [0, *max*].

**randMin: max:**

- (int)**randMin:(int)min max:(int)max**

Returns an int in the range [*min*, *max*].

**read:**

- **read:(NXTypedStream \*)stream**

Reads a Random from *stream*.

See also: - **write:**

**rollDie:**

- (int)**rollDie:(int)numSides**

Returns an int in the range [1, *numSides*].

**roll: die:**

- (int)**roll**:(int)*numRolls* **die**:(int)*numSides*

Returns an int in the range [*numRolls*, *numRolls* \* *numSides*].

**rollBest: of: die:**

- (int)**rollBest**:(int)*numWanted* **of**:(int)*numRolls* **die**:(int)*numSides*

Returns the sum of the best *numWanted* rolls..

**setSeeds:::**

- **setSeeds**:(int)*s1* :(int)*s2* :(int)*s3*

Sets the seeds to the values given.

See also: ± **getSeeds:::**

**write:**

- **write**:(NXTypedStream \*)*stream*

Writes a Random to *stream*.

See also: - **read**: