

# 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

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Written by Gregor Purdy, Contemporary Design Studios

### Real Job Contact Information (NOT Contemporary Design Studios):

gregor@oit.itd.umich.edu

University of Michigan / 1600 SEB / 610 E. University / Ann Arbor / MI / 48109

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very interested in making sure it works correctly. Feel free to drop me an email or letter with your comments.

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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
Rolling dice	- randMax:
	- randMin:max:
	- percent
	- rollDie:
	- roll:die:
Archiving	- rollBest:of:die:
	- 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:**