seed

syntax: `seed(integer)` or `seed`

purpose: Sets the seed for the random number generator. This allows you either to repeat exactly a previous calculation (to do this, set the seed to the same value both times), or to avoid using the same random numbers (do this by setting the seed to different numbers each time.

Computer-generated random numbers are not really random; they are "pseudo-random." This means that the computer generates a fixed sequence of random-looking numbers. The sequence is very, very long, so the pseudo-random numbers are not repeated within any typical computation. The seed of the random number generator tells where in the sequence to start. There is not a simple relationship between the value of the seed and the place in the sequence, but if you set the seed to be the same value in two computations, you will get the same sequence of pseudo-random numbers in each of the computations. If you set the seed differently, you will get different pseudo-random numbers.

Using `seed` without any arguments will set the random-number generator to a random place in the sequence (based on the reading of the computer's clock). This is useful when you want some new set of random numbers guaranteed to be in a different part of the sequence than some other set of random numbers.

example:

```
≫  seed(1492);
```

Now generate 5 random numbers from, say, a uniform distribution

```
≫  uniform(5,0,1)
  ans:    0.2835 0.0679 0.3478 0.7325 0.7162
```

Using a different seed will start the random sequence in a different place.

```
≫  seed(1776)
≫  uniform(5,0,1)
  ans:    0.1648 0.6967 0.9363 0.8391 0.4448
```

We can return to a previous starting place in the sequence by giving the same random seed used previously:

```
≫  seed(1492);
≫  uniform(5,0,1)
  ans:    0.2835 0.0679 0.3478 0.7325 0.7162
```

warning!: Setting the seed based on the computer's clock using

```
≫  seed
```

will give sensible results only if the computer's clock is working, and if you do not set the seed more than once per second. (The computer's clock is precise only to 1 second.)