
Subject: Re: RANDOMN function

Posted by [Russell Ryan](#) on Thu, 14 Nov 2013 18:19:27 GMT

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On Thursday, November 14, 2013 10:25:08 AM UTC-5, fd_...@mail.com wrote:

> On Thursday, 14 November 2013 15:12:55 UTC, rr...@stsci.edu wrote:

>

>> There are lies, damned lies, and statistics.

>

>

>

> What do you mean by saying that there are lies, damned lies and statistics?

>

> The fact that the mean of the values generated by RANDOMN(seed,N) is not zero it's not wrong?

It's a saying from Benjamin Disraeli (at least credited to him by wikipedia). I think his original meaning was that statistics can be used (or misused) to present any argument you want, and is now often just a joke about statistics. Your problem was really rooted in the central limit theorem:

http://en.wikipedia.org/wiki/Central_limit_theorem

Ultimately, the accuracy of any statistical quantity is increased by a larger sample. You were simply quoting an average of a bunch of random numbers and were worried that it wasn't zero, as you correctly expect. But, even if you do a billion numbers the average won't be exactly zero. It will only be zero within some range, which you would probably concede is fine if you also compute the variance on the average. In which case, you'll see (I'm willing to bet) that your 1000 random numbers were actually mean zero, within the variance.
