

Re: fibonacci -> FFT -> generating function?

Source: <http://sci.tech-archive.net/Archive/sci.math/2007-04/msg00935.html>

- *From:* David C. Ullrich <ullrich@xxxxxxxxxxxxxxxxxxxx>
 - *Date:* Sat, 07 Apr 2007 06:14:00 -0500
-

On 7 Apr 2007 00:51:46 -0700, dillogimp@xxxxxxxxxx wrote:

hi

Does FFT has the power to find the generating function for a recursively generated sequence like fibonacci?

Well, FFT is an algorithm for numerical calculation of (discrete) Fourier transforms, so *it* doesn't have the power to do anything remotely like this.

You could certainly say that the Fourier transform itself has a lot to do with generating functions – if the generating function for the sequence a_n is $\sum a_n z^n$ then considering $|z| = 1$ gives you a Fourier series; that Fourier series *is* the Fourier transform of the sequence a_n .

David C. Ullrich

.