

Re: Question on Pi

Source: <http://sci.tech-archive.net/Archive/sci.math/2005-12/msg05271.html>

- *From:* john_bailey@xxxxxxxxxxxxxxxx (John Bailey)
 - *Date:* Fri, 30 Dec 2005 16:16:43 GMT
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On 29 Dec 2005 21:13:52 GMT, David W. Cantrell
<DWCantrell@xxxxxxxx> wrote:

>David W. Cantrell <DWCantrell@xxxxxxxx> wrote:

>> "Robert J. Kolker" <nowhere@xxxxxxxx> wrote:

>> > andre.maier@xxxxxxx wrote:

>> > > Does such an algorithm exist at all?

>> >

>> > Yes. There is such an algorithm.

>> > <http://www.math.hmc.edu/funfacts/ffiles/20010.5.shtml>

>>

>> That algorithm gives hexadecimal digits. Andre probably wanted decimal

>> digits. Clearly, he didn't want hexadecimal digits because he said

>> $f(3) = 1$ rather than $f(3) = 3$.

>>

>> AFAIK, an algorithm similar to BBP's but giving decimal digits has yet to

>> be devised.

Repeating an earlier response to a similar question:

(Message-ID: <4049cf8a.152508653@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>)

Actually,

<http://www.labmath.uqam.ca/~plouffe/Simon/BaileyBorweinPlouffe.pdf>

ON THE RAPID COMPUTATION OF VARIOUS POLYLOGARITHMIC CONSTANTS by

Bailey, Borwein and Plouffe gives the binary digit formula, which you

ask for, but the quoted formula and other URL gives the decimal digit

technique. Using the "formula" is not straight forward and before you

use it, read the article. FURTHERMORE: After posting a note:

(Message-ID: <3c1cbb31.409168...@xxxxxxxxxxxxxxxxxxxxxxxx>)

saying that <http://www.lacim.uqam.ca/plouffe/Simon/articlepi.html>

presents a method for finding the nth decimal digit of pi, I got the

following personal note from David Bailey, who while not my cousin is

a member of the Bailey, Borwein, Plouffe trio who pioneered nth digit

of pi calculation.

David H Bailey wrote:

Yes, I'm aware of this scheme. The problem is that it is much too expensive. As I recall the work increases as the cube of the index,

so
that even for the 1,000th decimal digit it is too expensive to be
usable. It is far cheaper to calculate all digits up to the 1,000th
digits. Thus this "algorithm" is moot.

DHB
(end quote)

So there it is, and it isn't.
John Bailey
<http://home.rochester.rr.com/jbxroads/mailto.html>

• **References:**

- ◆ **Question on Pi**
 ◇ From: andre . maier
 - ◆ **Re: Question on Pi**
 ◇ From: Robert J. Kolker
 - ◆ **Re: Question on Pi**
 ◇ From: David W . Cantrell
 - ◆ **Re: Question on Pi**
 ◇ From: David W . Cantrell
- Prev by Date: **Re: GCD(0,0)**
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