

Re: Mathematica. A big limit of mathematica !!!???

Source: <http://sci.tech-archive.net/Archive/sci.math.num-analysis/2005-09/msg00069.html>

- *From:* DP <pfennige@xxxxxxxxxxxxxx>
 - *Date:* Mon, 12 Sep 2005 20:09:38 +0200
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LumisROB wrote:

> During this calculation:
>
>
> m= Table[(i-j)+3.*j^-4 +50*i , {i,1,10000} , {j,1,10000}];
> Det[m]
>
> the kernel has jammed and the following message has been visualized
>
> No more memory available.
> Mathematica kernel has shut down.

Do you realize that 10^8 elements should be generated in the table, each element needing several bytes, because the dot after the "3" means that you want floating point numbers? Just storing m will require at least several Gigabyte memory. Do you have such a computer? Probably not since Mathematica already told you "No more memory available".

But this effort appears unnecessary because in your case your final result should be exactly 0. Indeed the matrix m is a sum of matrix with identical rows and a matrix with identical columns: in such a case only 1 or 2-dimensional matrices may have non-zero determinant since the spanned vector space is 2-dimensional.

>
> It is not a banal problem, more times I encounter me with these
> problems that really make unusable Mathematica for my purposes . In
> such cases I am forced to pass to Matlab that is behaved better
> always. But I love Mathematica and I want to look for a solution not
> to abandon it
> Precise that know Mathematica enough to fund and therefore I am not
> scandalized me if in such problems the time of calculation lengthens
> but really I don't understand because in reality it jams
> Precise that have introduced more times this problem in numerous
> occasions and anybody has ever known how to give me a satisfactory
> explanation. Obviously I don't expect me that Mathematica is as fast

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- > as a compiled program but that that expect me from a so valid program
- > it is that if it don't succeed in completing a calculation point out
- > me the reality motive.
- > Is it a wrong thing to pretend it?
- >
- > The dimension of the in demand memory is not limited from windows xp
- > or my hardware–software(OS) configuration, in fact such error also
- > happens in xp 64 Bit with Mathematica 5.2 (64 Bit) Athlon 64 2 GB Ram.
- >
- > Is it probably a big limit of mathematica in to manage data of big
- > dimensions ?
- > Are these problems the true limit of mathematica ?
- > Is it possible to overcome this obstacle? &&or Where am I being wrong?
- >
- >
- > Thanks for the help
- >
- >
- .

• **Follow-Ups:**

- ◆ **Re: Mathematica. A big limit of mathematica !!!???**
◇ From: LumisROB

• **References:**

- ◆ **Mathematica. A big limit of mathematica !!!???**
◇ From: LumisROB

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