

Re: a big limit of mathematica?

Source: <http://sci.tech-archive.net/Archive/sci.math.symbolic/2005-09/msg00038.html>

- *From:* Peter Pein <petsie@xxxxxxxxxxx>
 - *Date:* Sat, 10 Sep 2005 20:04:13 +0200
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LumisROB schrieb:

> 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.
>
>
>
> 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
> 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?
>

Re: a big limit of mathematica?

>
> Thanks for the help

Hi Roberto,

as Paul Abbott and me, we have written in comp.soft-sys.math.mathematica in messages <dfovu8\$ffs\$1@xxxxxxxxxxxx> (Paul) and <dfov8q\$f97\$1@xxxxxxxxxxxx> (me), where you posted a very similar matrix with complex entries, the first 3 lines are not independent. The same is true in this case:

```
In[1]:=
m = Table[(i - j) + 3/j^4 + 50*i, {i, 1, 10000}, {j, 1, 3}];
Solve[m . {x, y, z} == 0]
Out[2]=
{{x -> (497*z)/1647,
y -> -((2144*z)/1647)}}
```

If you've got such big matrices, try to play around with similar smaller ones (like Dana did) using exact numbers, where possible (like Richard did) and it is often easy to see simple relations (like Peter and Paul ;-) did).

Hope this helps,
Peter

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