

Re: Fast search for a number within tolerances

Source: <http://coding.derkeiler.com/Archive/Java/comp.lang.java.programmer/2005-06/msg00639.html>

- *From:* jonasforssell@xxxxxxxx (Jonas Forssell)
 - *Date:* 7 Jun 2005 11:35:39 -0700
-

Wibble <Wibble@xxxxxxxxxxxxxxxx> wrote in message news:<68SdnWQAmfy0HDjFRVn-hA@xxxxxxxx>...

> Jonas Forssell wrote:

>> Gentlemen,

>>

>> I have a set of three dimensional nodes – each with a position in

>> space (x,y,z).

>> I need to write a fast algorithm in Java to merge nodes that are close

>> – i.e. within a specific tolerance.

>>

>> Easy way: Run through the array of nodes, check each node against

>> every other node and merge if needed. This will take an awful amount

>> of time when the array is 500.000 nodes or larger.

>>

>> Smart way:?

>>

>> Thanks for your help

> If all your nodes are equidistant, do you merge them into a single node?

>

> Partition your space into a 3D matrix with each cube of a discrete size.

> Merge nodes that are within the same cube. Thats O(n). You can use

> a HashMap to model a sparse matrix. You can position the final node at

> an average of the component positions.

>

> Read a book on graphics like Foley&VanDamm. Theres lots of ways to

> partition and filter 3D models that are more efficient and look better

> than node merging.

Thanks for your reply!

I understand now how to continue.

Appreciated

/Jonas

.

• *References:*

◆ *Fast search for a number within tolerances*

◇ *From:* Jonas Forssell

◆ *Re: Fast search for a number within tolerances*

Re: Fast search for a number within tolernaces

◇ *From:* Wibble

- Prev by Date: ***Re: please help with this singing issue***
- Next by Date: ***KeyGenerator issue***
- Previous by thread: ***Re: Fast search for a number within tolernaces***
- Next by thread: ***Re: Fast search for a number within tolernaces***
- Index(es):
 - ◆ ***Date***
 - ◆ ***Thread***