Subject: connect the dots . . . A question
Posted by Sean Raffuse on Tue, 04 Feb 2003 01:21:06 GMT
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Hello venerable newsgroup.

I have an algorithmic question.

I'd like to interpolate values for everywhere in an array that I don't have
data. e.g.

myFullArray = intarr(12)
values = [10,20,30,20] ;the values I do have
indexes = [2,4,6,10] ;the locations associated with these values

In other words, I want to turn this [?,?,10,?,20,?,30,?,?,?,20,?]

into this [10,10,10,15,20,25,30,28,25,23,20,20]

Any thoughts?

Thanks in advance,

Sean

Subject: Re: connect the dots . . . A question
Posted by Thomas Gutzler on Tue, 04 Feb 2003 02:30:29 GMT
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Sean Raffuse wrote:
> Hello venerable newsgroup.

Hi Sean

> I have an algorithmic question.
>
> I'd like to interpolate values for everywhere in an array that I don't have
> data. e.g.
>
> myFullArray = intarr(12)
> values = [10,20,30,20] ;the values I do have
> indexes = [2,4,6,10] ;the locations associated with these values
>
> In other words, I want to turn this [?,?,10,?,20,?,30,?,?,?,20,?]
>
> into this [10,10,10,15,20,25,30,28,25,23,20,20]
>

> Any thoughts?

You might need.
newindexes = indgen(12)
myFullArray = INTERPOL(values,indexes,newindexes)

which gives you an interpolated result:
[0, 5, 10, 15, 20, 25, 30, 28, 25, 23, 20, 18]

If you really want to get rid of the interpolated values at the indexes
0, 1 and 11 ... well

changeme = VALUE_LOCATE(indexes,newindexes)
myFullArray[WHERE(changeme LT 0)] = values[0]
myFullArray[WHERE(changeme GT N_ELEMENTS(values)-2)] =
values[N_ELEMENTS(values)-1]
or, as I've learned :)
myFullArray[WHERE(changeme GT N_ELEMENTS(values)-2)] =
(values[[2147483647L]])[0]

Result:
[10, 10, 10, 15, 20, 25, 30, 28, 25, 23, 20, 20]

Maybe this can be done better :)

Tom

Subject: Re: connect the dots . . . A question
Posted by Sean Raffuse on Tue, 04 Feb 2003 15:42:59 GMT
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"Thomas Gutzler" <tgutzler@ee.uwa.edu.au> wrote in message
news:3E3F25C5.4040206@ee.uwa.edu.au...
> Sean Raffuse wrote:
>> Hello venerable newsgroup.
>
>
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> (values[[2147483647L]])[0]
>
> Result:
> [10, 10, 10, 15, 20, 25, 30, 28, 25, 23, 20, 20]
>
> Maybe this can be done better :)
>
> Tom

Thanks! That may be what I'm looking for. It is important for the values outside the first and last known values not be interpolated.

>