Subject: evenly spaced vector
Posted by sivan on Tue, 21 Aug 2012 18:21:44 GMT
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hi all.

i encountered an internet problem so i'll send the post again.

i have x and y points that describe an open curve in 2D space but this curve doesn't be represented by functions. lets say it is a random curve.
what i wanted to do is to place evenly spaced points along this curve.
to do this, i modified the arcsample (http://www.idlcoyote.com/programs/arcsample.pro) procedure for open curves but it did not exactly work. this procedure doesn't create points evenly spaced.
if you pleased, i'll send you my code and data.

by the way, sorry for my english.

kind regards,
sivan.

Subject: Re: evenly spaced vector
Posted by sivan on Sun, 02 Sep 2012 12:33:21 GMT
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i'm still waiting.

Subject: Re: evenly spaced vector
Posted by sivan on Sun, 02 Sep 2012 14:27:46 GMT
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will anyone help me?

Subject: Re: evenly spaced vector
Posted by Craig Markwardt on Sun, 02 Sep 2012 20:46:55 GMT
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On Sunday, September 2, 2012 10:27:47 AM UTC-4, sivan wrote:
> will anyone help me?

Probably not. Nobody knows how you modified ARCSAMPLE, so they have no way to speculate on how to solve it. And most people don't want to debug someone else's programs.

Why don't you use ARCSAMPLE unmodified? It will return values for a closed curve, and you want an open curve. But you can post-process the points after it returns.

CM

Subject: Re: evenly spaced vector
Posted by sivan on Thu, 06 Sep 2012 11:22:21 GMT
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On Sunday, September 2, 2012 11:46:56 PM UTC+3, Craig Markwardt wrote:
> On Sunday, September 2, 2012 10:27:47 AM UTC-4, sivan wrote:
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i appreciated for your reply.

it doesn't matter whether I use arcsample or not.
the problem is that i don't place evenly spaced points along the curve.
modified or unmodified arcsample routine doesn't work as requested. i tried both.

best wishes,

sivan.

Subject: Re: evenly spaced vector
Posted by Craig Markwardt on Thu, 06 Sep 2012 14:00:29 GMT
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On Thursday, September 6, 2012 7:22:21 AM UTC-4, sivan wrote:
> On Sunday, September 2, 2012 11:46:56 PM UTC+3, Craig Markwardt wrote:

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I tried this example:
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x0 = randomn(seed,5) & y0 = randomn(seed,5)
arcsample, x0, y0, x, y

plot, x0, y0 & oplot, x, y, psym=1
plot, sqrt((x(1:*)-x)^2 + (y(1:*)-y)^2)
```

It looks evenly spaced to me.

The points are evenly spaced along the (spline interpolation) path, but that does not necessarily mean equally distant from each other (linear interpolation).

ARCSAMPLE up-samples by a factor of 100. If you modify that to a larger and larger number, then neighbor points will tend to be more and more equidistant.

CM

Subject: Re: evenly spaced vector
Posted by sivan on Thu, 06 Sep 2012 17:22:00 GMT
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On Thursday, September 6, 2012 5:00:29 PM UTC+3, Craig Markwardt wrote:
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this is the graphic:
 https://docs.google.com/open?id=0B8iEehZBld1OLUVXdndEQ2RwcE0

as you can see, arcsample doesn't work properly. moreover, some points fall outside the curve.

this is the code and the data:
 https://docs.google.com/open?id=0B8iEehZBld1OaEI5UkJiTVFkelk

inform me if links are broken.

Subject: Re: evenly spaced vector
Posted by Craig Markwardt on Thu, 06 Sep 2012 19:41:22 GMT
View Forum Message <> Reply to Message

On Thursday, September 6, 2012 1:23:51 PM UTC-4, sivan wrote:
> On Thursday, September 6, 2012 5:00:29 PM UTC+3, Craig Markwardt wrote:
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The points are equally spaced in path length, where path length between data values is defined by the pythagorean theorem. It's doing what you asked it to do. But the pythagorean theorem doesn't really make sense when X is tempoerature and Y is log_g, does it?

If you want equidistantly sampled points in *plot* space, then you need to transform to device coordinates first, then do your arcsampling.

Some warnings. ARCSAMPLE uses SPL_INTERP(), which has some overshoot for rapidly varying functions like yours. You may not want that. Also, you used David's original code which sets the endpoint slopes to AVGSLOPEX and AVGSLOPEY, but that assumes that it's still a

closed curve. Yours is not a closed curve. For your open curves, you should revert to natural splines where the slope is not specified at the endpoints.

Craig

Subject: Re: evenly spaced vector
Posted by sivan on Fri, 07 Sep 2012 07:17:58 GMT
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On Thursday, September 6, 2012 10:41:22 PM UTC+3, Craig Markwardt wrote:
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> Craig

hello again dr.

Ögelman. He was one of the most precious professors in my country, Turkey.

whatever, as you mentioned above, pythagorean theorem doesn't make sense.
do you have any idea how to do what i wanted?

best regards,

sivan.

Subject: Re: evenly spaced vector
Posted by Craig Markwardt on Fri, 07 Sep 2012 14:06:48 GMT
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On Friday, September 7, 2012 3:17:58 AM UTC-4, sivan wrote:
> On Thursday, September 6, 2012 10:41:22 PM UTC+3, Craig Markwardt wrote:
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Thanks for your kind words.

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> do you have any idea how to do what i wanted?

Yes. I described it above. "If you want equidistant points in plot space..."

CM

Subject: Re: evenly spaced vector
Posted by sivan on Fri, 07 Sep 2012 19:40:25 GMT
View Forum Message <> Reply to Message

On Friday, September 7, 2012 5:06:48 PM UTC+3, Craig Markwardt wrote:
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you said that i needed to transform to device coordinates first, then did my arcsampling. it seems a little complicated to me. how can i do it?

thanks in advice,

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Subject: Re: evenly spaced vector
Posted by Craig Markwardt on Sat, 08 Sep 2012 03:40:19 GMT
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On Friday, September 7, 2012 3:40:25 PM UTC-4, sivan wrote:
> On Friday, September 7, 2012 5:06:48 PM UTC+3, Craig Markwardt wrote:
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Read about the IDL function CONVERT_COORD. You have data in DATA space and want to convert to DEVICE space before arcsampling.

Subject: Re: evenly spaced vector
Posted by sivan on Wed, 19 Sep 2012 15:41:59 GMT
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thanks for the reply.

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kind regard,
sivan.

On Saturday, September 8, 2012 6:40:19 AM UTC+3, Craig Markwardt wrote:
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