

From: Matt (Maplesoft Support) [mailto:support@maplesoft.com]
Sent: Wednesday, March 06, 2019 1:01 PM
To: Robert Jantzen <robert.jantzen@villanova.edu>
Subject: Re: 6253: Explore command does not seem to work as expected with a 2d plot procedure

Matt (Maplesoft)

Mar 6, 2:00 PM AST

Hi Bob,

In order to make it work, the parameter names need to appear explicitly inside the "explored" expression. This means that 'seq' won't work when building up the indexed names on-the-fly.

It is worth mentioning that the delayed evaluation of the plotting command, or indeed of any explored expression, is fundamental (with the above behaviour being a consequence), since the parameters need to be kept arbitrary.

One option is to 'Explore' a call that explicitly contains all the parameter names. If you really don't want to type all those in, and prefer to use 'seq' to construct them explicitly in the call, then you'd have to temporarily delay the 'Explore' call itself. See the attached 'Explore_bezier.mw'.

Please also see 'Explore_bezier2.mw', which is a version where the marker controls (textareas, sliders, etc.) are hidden by default, but the last values can be obtained programmatically. Multiple curves (and their control points) are supported. It should be relatively straightforward to adjust the way that the values are stored, if desired.

Regards,

Matt
Team Lead, Technical Support

Robert Jantzen

Mar 3, 10:27 PM AST

One of the problems I have always had as an intermediate user of Maple is that when I combine simpler Maple procedures together, in the composed setting, they lead to frustrating errors.

I noticed that Maple finally has a help page with Bezier curves using the hidden code I cannot uncover for an imbedded component to plot a simple curve with its control points. I would like to build up such a procedure so I can combine it with multiple Bezier curve segments, with draggable markers for the control points. Following a working such Explore procedure I built for illustrating eigenvectors of a 2×2 matrix, I built up a Bezier procedure with markers, but the procedure which creates the curve from the marker coordinates rebels when put inside the Explore command. I wanted to use either concatenated variables or matrix variables for the x and y coordinates of N points in the plane ($n=4$ in my first attempt). I had to create 16 different variable names inside Explore when both smarter alternatives would not work! Can you look at the end of this worksheet where I have the error generated by using subscripted variables inside Explore?

Also the interactivity of draggable markers is essential to designing curves using Bezier curve segments, but to use the results, one must extract all the current control point coordinates, which I did by estimating from the final plot. Is there a way to export the current values of the marker variable values? If not, it would make sense for your developers to work on making it happen.

Thanks,
bob

bob jantzen

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Attachment(s)

[beziercurves.mw](#)