Subject: Re: New user needs help
Posted by m.a.vaughan on Wed, 04 Jun 1997 07:00:00 GMT
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In article <Pine.SOL.3.95.970602190951.20024A-100000@comp>,
Brent Ragar <bragar@comp.uark.edu> wrote:
]- Hi all!
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]- First off I feel I should apologize for being so ignorant. My
]-professor handed me the IDL package and told me to just write a program
]-for our research. I haven't ever programmed before and have been unable to
]-find one thing I need in the manual, the FAQ, or on a web page...
]- I am wanting to use IDL to solve a transcendental equation. All
]-the values are defined except one variable, which cannot be isolated (at
]-least not with the math I've had). Is there some magical way that I can
]-have IDL solve for this variable? I can set an expression that includes
]-the value equal to an integer, if that would help. I'm really at a loss.
]-I'm sorry if I've asked something that's been covered before, but I didn't
]-really know what I was looking for and dejanews couldn't help me! Private
]-e-mail is welcome and much appreciated. Thanks in advance for you
]-assistance!

I haven't been at this IDL stuff very long myself (started with the 5.0 demo), so there may be other ways to do this...

- The FX_ROOT function should get you what you want (this is an implementation of Muller's method)

- if you have a differentiable function and a reasonable starting guesstimate the Newton's method is the way to go...

$$x[i+1] = x[i] - \frac{f(x[i])}{f'(x[i])}$$

You should be able to find Muller's method and Newton's method in any introductory numerical analysis text (e.g. Burden & Faires; also in Numerical Recipes)

Mark Vaughan

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]--Brent Ragar

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