Subject: Re: math
Posted by MC on Mon, 22 Nov 2010 12:04:00 GMT
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There are several routines, search the online help for "differential equation"

Here's one from the help:

```
PRO LSODETEST

  ; Define the step size:
  H = 0.5
   ; Define an initial X value:
  X = 0.0
   ; Define initial Y values:
  Y = [4.0, 6.0]
   ; Integrate over the interval (0, 0.5):
  result = LSODE(Y, X, H, 'differential')

  ; Print the result:
  PRINT, result
END
FUNCTION differential, X, Y
  RETURN, [-0.5 * Y[0], 4.0 - 0.3 * Y[1] - 0.1 * Y[0]]
END
```

Note that function can have more parameters passed that can control its behaviour, which may be what you are asking for in Q3. I can't understand your 2nd and 4th Q's

Cheers MC

On Nov 22, 9:58 am, amin farhang <farhang.a...@gmail.com> wrote:
> dear readers,
> i have some questions about IDL
> 1. how can i solve differential equations in IDL? i know that the RK4
> function do it but it is very obscure, may you introduce a simple
> method to solve all differential equations?
> 2. what is the simplest way for taking the integrals directly
> (specially 1D integrals) without write a function?
> 3. How do I define a function that its parameters could be changed in
> every calling (for example in every step of FOR-DO loop, function
> return a new value)?
> 4. does functions could return a paramedical equations? if OK how?
> thank you so much and sorry for my many questions
> best regards,