

Slope Fields -dfield5

- The routine **dfield5** is already loaded on all PUCG machines as standard software. If you are using your own copy of MATLAB you may need to download **dfield5**. Here is a link :

<http://math.rice.edu/~dfield/>

(Caution: **dfield**, an older version of **dfield5**, may not work properly.)

- To access **dfield5**, at a MATLAB prompt type: **dfield5**
- A popup window will appear:

The differential equation.		
$x' = x^2 - t$		
The independent variable is <input style="width: 50px;" type="text" value="t"/>		
Parameters/expressions: <input style="width: 50px;" type="text"/> = <input style="width: 50px;" type="text"/> <input style="width: 50px;" type="text"/> = <input style="width: 50px;" type="text"/>		
The display window.		
The minimum value of t = <input style="width: 50px;" type="text" value="-2"/>	The minimum value of x = <input style="width: 50px;" type="text" value="-4"/>	
The maximum value of t = <input style="width: 50px;" type="text" value="10"/>	The maximum value of x = <input style="width: 50px;" type="text" value="4"/>	
Quit	Revert	Proceed

- Correctly enter your differential equation (you may need to change the independent variable from “t” to “x”) and the range of values of the independent and dependent variables. Hit **Proceed** and a graphics window will appear with the slope field of your differential equation. Click the mouse at any point and the corresponding solution curve will be plotted.
- There are several options available in the graphics display window : printing, keyboard input of initial conditions, inserting text, erasing solutions, zoom, etc.