

## How to use ODE Architect

1. On CIS Windows PC's click on:

**Start** → **Programs** → **Dept** → **Math**  
→ **Boyce ILE CD-ODE Architect** → **ODE Architect Tool**

**or** insert the CD that came with your textbook into your computer and install ODE Architect.

2. Open **ODE Architect Tool**.
3. In the white box (upper left corner) type the DE:

$$y' = y^2 - 2ty$$

for the DE  $y' = y^2 - 2ty$  and click the **Enter** button below the box.

4. Click the **IC** tab in the lower left corner.
5. Enter the initial condition for  $(y, t)$ , the interval length (that is the interval of time to solve for) and the number of points in that interval. Note that the stepsize,  $h$ , is given by

$$h = \frac{\text{Interval Length}}{\text{Number of Points}} .$$

and that you should choose  $h$  small (say  $h \approx 0.1$ ) for accuracy.

6. Push the **Solve** button to solve the DE. The graph should appear in the upper right window.
7. To see a direction field, right click on a graph and click on **Direction Fields**. To add points or arrows, right click on a graph, and click on **Edit**.
8. To explore the **ODE Architect Library**, click on the books icon on the top toolbar.
9. You can change the solver that ODE Architect uses. For example, to make ODE Architect use the Euler method, click on the **Solver** tab (lower left corner) and the **Euler** button.
10. You can also see the individual datapoints from ODE Architect. For example, to see data for  $(y, t)$ , click on the **Data** tab on one of the right windows.