

**Euler's Method I**

1. Consider the DE  $y' = xy$  with initial value  $y(0) = 1$ .

For each use of Euler's method, be sure to set up a *new* table with column headings:

step	$x$	$y$	$y'$	$\Delta y$
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The first data row of your table, *step 0*, contains the initial  $x$  and  $y$  values as well as computed values for  $y'$  and  $\Delta x$ .

- (a) Use Euler's method with four steps of size 1 to estimate  $y(1)$
- (b) Use Euler's method with four steps of size 0.50 to estimate  $y(1)$
- (c) Use Euler's method with four steps of size 0.25 to estimate  $y(1)$