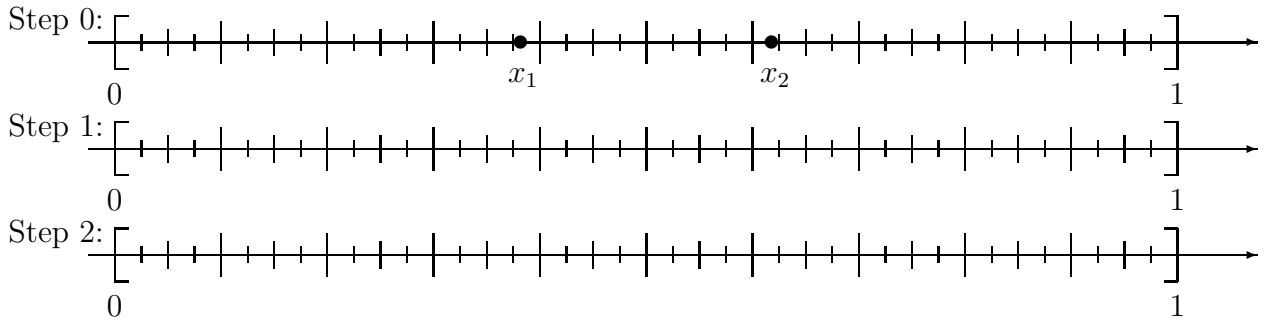
Quiz (4) MCS 471 Jan Verschelde Friday 4 February 2005

NAME : Type of Calculator :

1. Apply 2 steps of the golden section search method to find the minimum of $f(x) = \cos(4x)$ in $[0, 1]$. Write the values for x_1, x_2, $f(x_1)$, and $f(x_2)$ in the table below:

step	x_1	x_2	$f(x_1)$	$f(x_2)$
0	3.820E–1	6.180E–1		
1				
2				

Mark the values for x_1 and x_2 on the axes:



2. Give the sequence of approximations produced by Newton's method to compute $\sqrt{2}$ with 3 correct decimal places, starting at $x_0 = 2$.