DO THIS IN ORDER TO PREPARE FOR PROGRAM ASSIGNMENT 3.
IF YOU SEEK MY ASSISTANCE ON PA-3, I WILL ASK TO SEE THIS FIRST.

Using $I_0 = 0.0, h = 0.1, x_0 = 0.0, \text{ and } y_0 = 2.0$, determine these quantities by hand:

1. Iteration 1:
   (a) $x_1 = x_0 + h$
   (b) $y_1 = y_0 + \frac{h}{2}(x_0 + y_0 + x_1 - y_0^2 - I_0)$
   (c) $I_1 = I_0 + \frac{h}{2}(y_0 + y_1)$

2. Iteration 2:
   (a) $x_2 = x_1 + h$
   (b) $y_2 = y_1 + \frac{h}{2}(x_1 + y_1 + x_2 - y_1^2 - I_1)$
   (c) $I_2 = I_1 + \frac{h}{2}(y_1 + y_2)$

3. Iteration 3:
   (a) $x_3 = x_2 + h$
   (b) $y_3 = y_2 + \frac{h}{2}(x_2 + y_2 + x_3 - y_2^2 - I_2)$
   (c) $I_3 = I_2 + \frac{h}{2}(y_2 + y_3)$

Then write a Maple code with a for...do...od loop to do 10 iterations of the above calculations. This should give results for $x_0, y_0, I_0 \text{ through } x_{10}, y_{10}, I_{10}$. 