

Name: \_\_\_\_\_

## Evaluation 4

**Introductory Programming**  
**Fall 2005**

On the following page is a problem from a textbook by Gerald and Wheatley. Please read the problem and then design a MATLAB program to answer the question posed.

The first step is to rewrite the differential equation in the box as a finite difference equation, and then to rewrite  $t$ ,  $N$  and  $B$  as functions of an index  $i$ .

In the space below, please write the variables you plan to use, their types and their initial values. Also, write the difference equation you will use to compute successive values of  $N$ . Then show me what you have before you start programming.

If you don't understand these instructions, come talk to me.