**Problem:** In a fashion similar to that in Fig 3.11, white a short program to determine the smallest number, xmin, used on the computer you will be employing with this book. Note that your computer will be unable to reliably distinguish between zero and a quantity that is smaller than this number.

**Solution:** I used Matlab for the solution.

The smallest number that the computer I used can interpret is: **9.881313e-324**

Here is my script:

%% Problem 1(book 3.4)

% Create a program that determines the smallest number, xmin, that the computer can distinguish from zero

%Clear all previous programs, commands, and windows

clear all; close all; clc;

xtest = 1;

xmin = 1;

while xtest ~= 0

xtest = xtest/10;

if xtest == 0

else

xmin = xtest;

end

end

fprintf('The smallest number is: %e\n',xmin);