**Answer for the question No One**

% Elapsed time is 0.001940 seconds.

% Elapsed time is 0.005181 seconds.

% Elapsed time is 0.013853 seconds.

Answer to questions for 1(a)

The signal propagated like a positive part of sine curve. Wave propagation speed =1. The amplitude of the signal decreased as it propagated.

Answers to question for 1(b)

If we look at the elapsed time, we can see that the second method took a little bit more time than the for loop.

Answers to questions for 1(c)

If we look at the elapsed times, we can find that the third method where we did matrix multiplication, and raised the matrix power, this one was the slowest

Again, looking at the elapsed time we see that the 1st method, where we used two for loops was the fastest one.

-No, the three methods did not do the same number of calculations. The looping method had the highest number of calculations. For the inner loop, it circulated for 100 times while for the outer loop again for 100 times. But the power method had to raise the power of the matrix each time and calculate it. It made this method slowest.

-In the 3rdmethod, though we vectorized the matrix and got rid of bot loops, but raising the power 100 times for a matrix consumed time for matlab.

**Note: if we try to assign method one == method two == method three, Matlab doesn’t agree. That’s can be true even for one fractional value. But the plots clearly show us that we had the same or almost the same results or every method.**