Lab-19

1. A string is stretched between to fixed ends and has a length 10 units. A pules on the string is found to move at a velocity 1 unit per sec. Using finite difference approach to solve the 1d wave equation, find the time evolution of the string if the initial string shape is a gaussian of width 0.1 units and peaked at x = 2 units. Assusme the string is starting from rest.

2. The same scenario as above but consider now that the string is made by attaching two strigs (of differenet mass per unit lenghts), each 5 units long. The masses of the strings are such that the left segment has a wave velocity of 1 unit per sec and the other has wave speed of 2 units per sec.

3. Same question as above with the pulse now initially peaked at x = 8 rather than at 2.