Numerical Relativity - PHY 6938

Solutions to HW 7

1.

b) In this problem we are trying to solve the PDE $\partial_t u + \partial_x u = 0$ on a grid with grid points $x_i = dx \ i$, where dx = 0.1 and $i \in [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]$.

c) When we run the program it prints the values of x_i and $u(x_i, t)$ at different times. The last line is for t = 1.0 and gives $u(x_{10}, t = 1.0) = 0.841470984808$ at $x_{10} = 1.0$.