1. (6 points) Consider the initial boundary value for the wave equation

$$u_{tt} = u_{xx} \qquad -\infty < x < \infty, \quad t > 0,$$
$$u(x, 0) = f(x) \qquad -\infty < x < \infty,$$
$$u_t(x, 0) = g(x) \qquad -\infty < x < \infty,$$
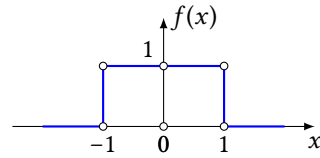
   Take $f(x)$ as shown, and $g(x) = 0$. Sketch the graphs of the solution $u(x, t)$ at times $t = 0.2, 0.5, 1, 2$. Clearly mark the coordinates of significant points on your graphs.

2. (8 points) In the previous problem, take $f(x) = 0$ and $g(x)$ as shown. Sketch the graphs of the solution $u(x, t)$ at times $t = 0, 1, 2$. Clearly mark the coordinates of significant points on your graphs.