Lab 8
Heat Equation
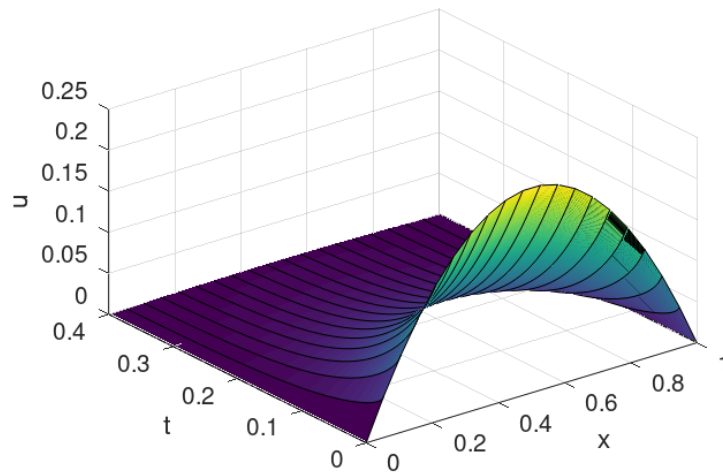
Soeon Park

December 11, 2021

1. Plot $u(x,t)$.

Figure 1: $\Delta x = 0.05$, $\Delta t = 0.0005$, $\alpha = 0.2$
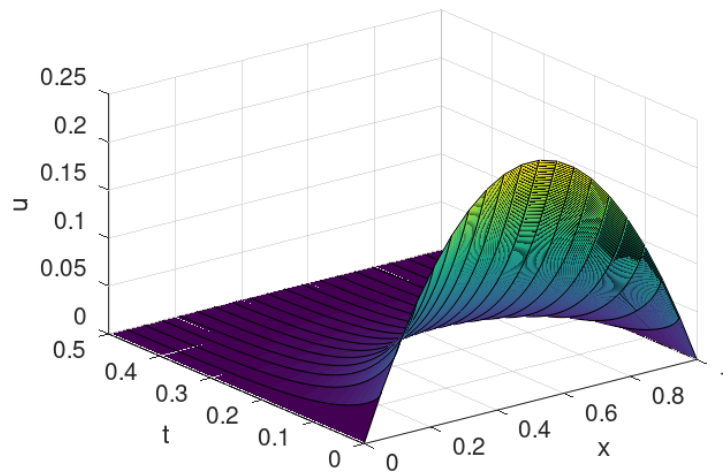

Figure 2: $\Delta x = 0.05$, $\Delta t = 0.0001$, $\alpha = 0.4$
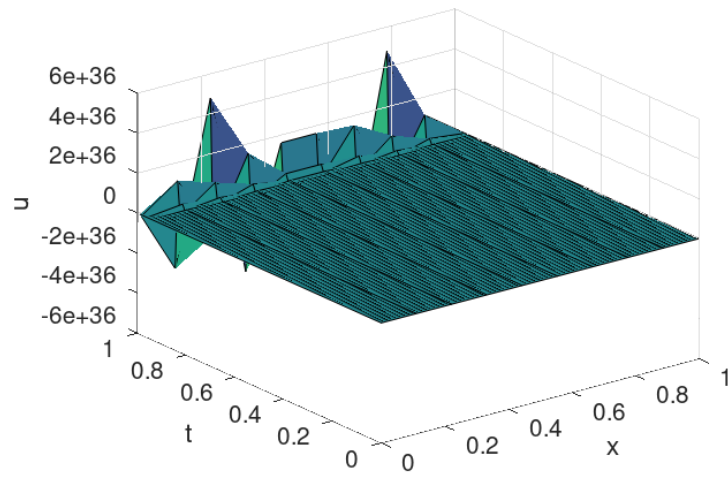
2. Stability plots showing unstable solutions.

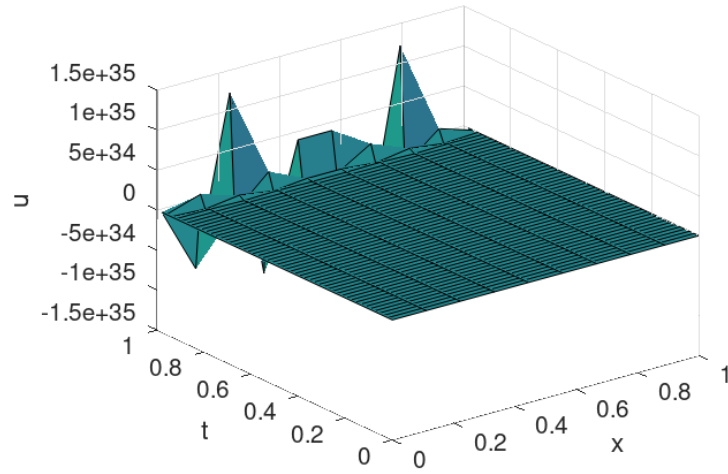Figure 3: $\Delta x = 0.1$, $\Delta t = 0.01$, $\alpha = 1.0$

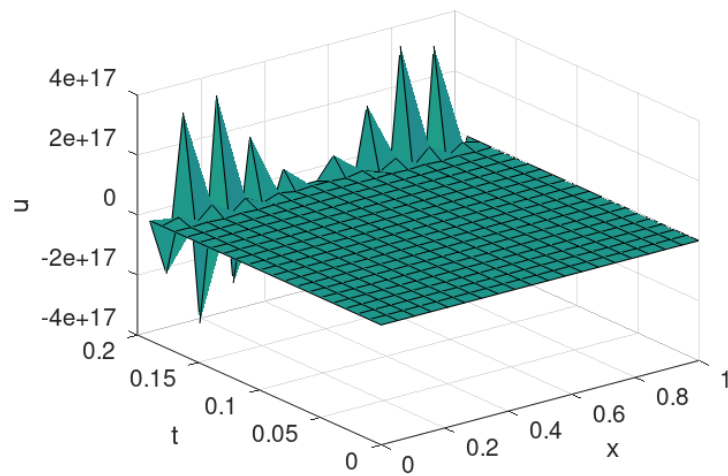
Figure 4: $\Delta x = 0.1$, $\Delta t = 0.02$, $\alpha = 2.0$

Figure 5: $\Delta x = 0.05$, $\Delta t = 0.01$, $\alpha = 4.0$