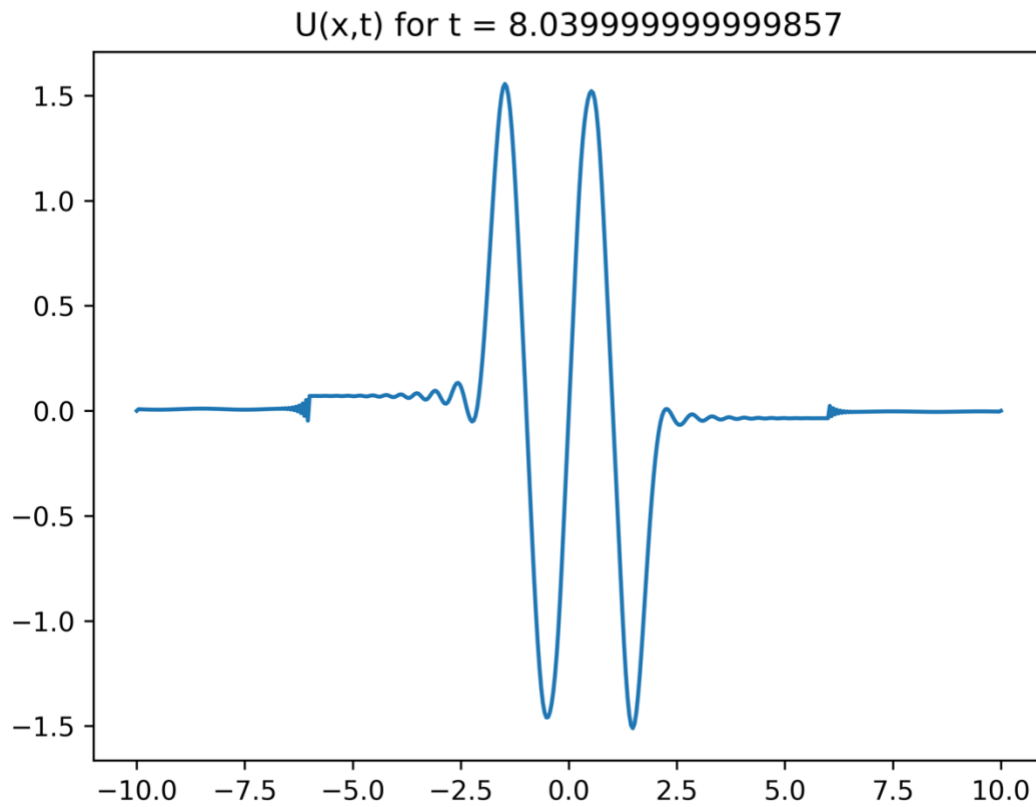


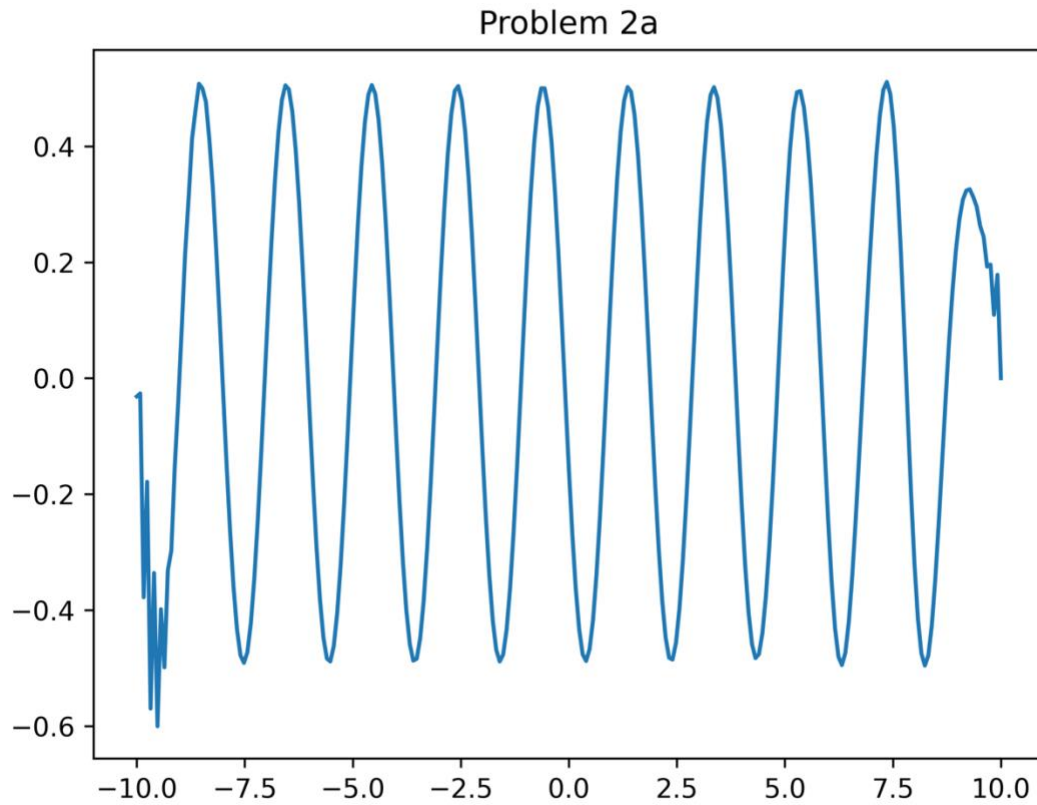
Computational Physics 3
HW 5
Christopher Morris

Problem 1



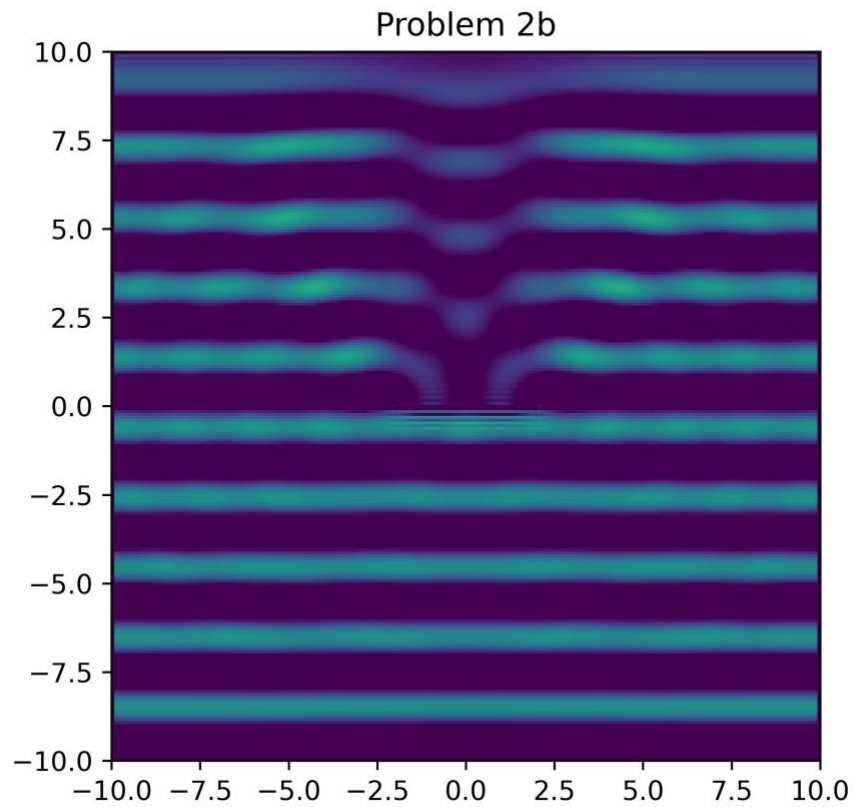
The maximum value of U was found to be 1.55. This is higher than the expected 1.5 which is due to the constructive interference of the waves. However, this is expected because it is unsure if the endpoint smoothing was done correctly.

Problem 2



The wavelength can be approximated from -7.5 to 2.5 and dividing by 5 because there are 5 troughs in that interval. This returns a wavelength of $10/5 = 2$. This is expected since the equation for wavelength is given by $\sin(\frac{2\pi}{\lambda} * t)$ and since the equation for the wave generator is $\sin(\pi * t)$ this implies that the wavelength is 2.

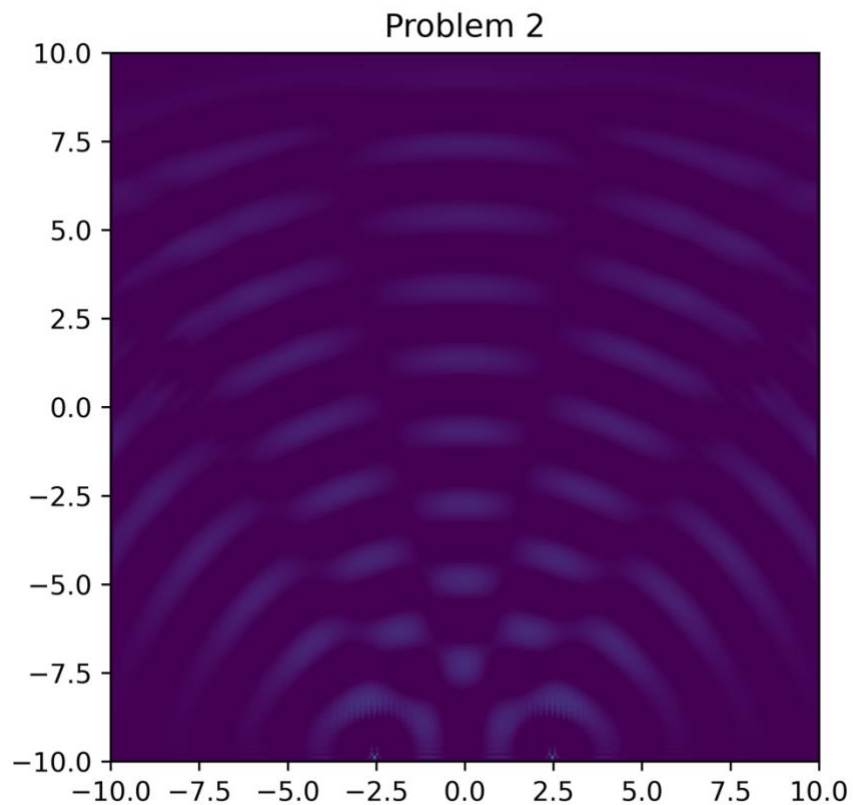
**** It was coded in the preassigned code to flip the image. Hence why the x-axis is on the left and the y-axis is on the bottom****



The absorbing barrier at first completely blocks the incoming wave part at the barrier. Then the wave once it's divided in two slowly merges back together, as seen from $x = 0$ to $.5$.

Problem 3

**** It was coded in the preassigned code to flip the image. Hence why the x-axis is on the left and the y-axis is on the bottom****



Yes, this agrees with my understanding of physics. This is the premise used in the double slit experiment, hence why we're seeing interference patterns. Increasing the distance between the sources increases the number of interference patterns. Decreasing frequency decreases interference patterns.