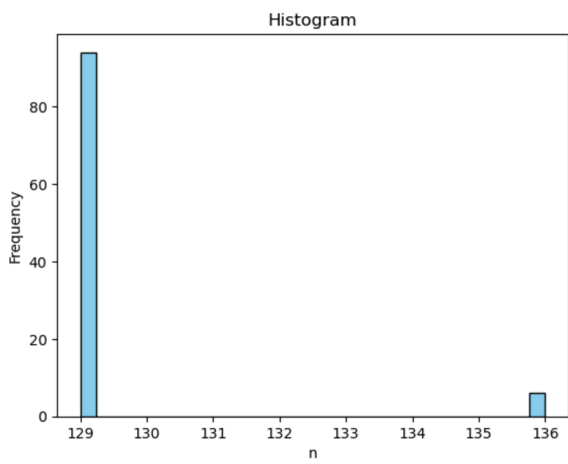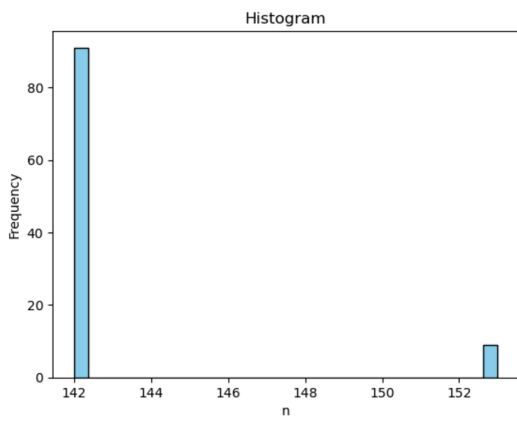Plots of my time complexity:
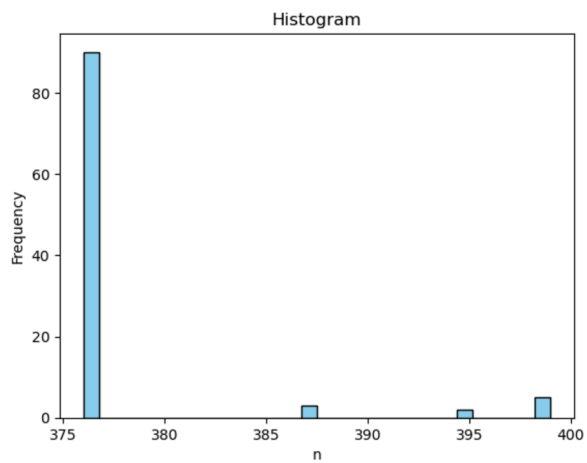
2x3:
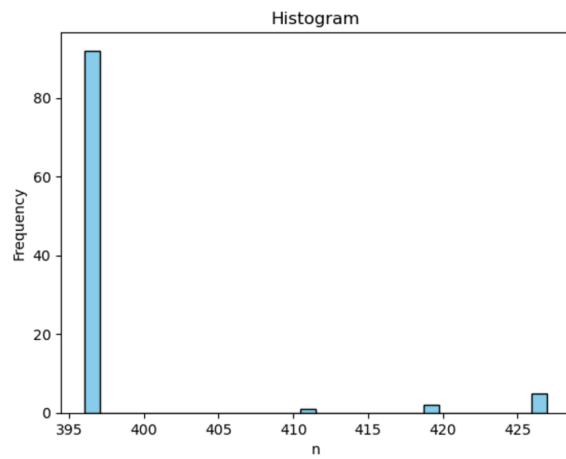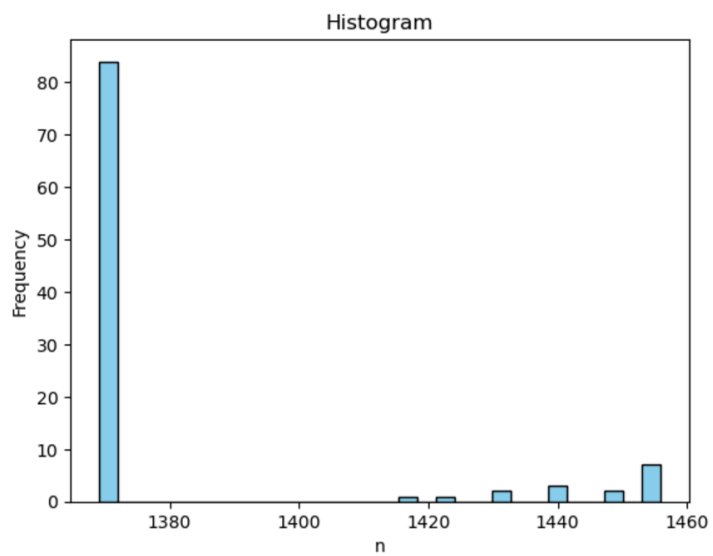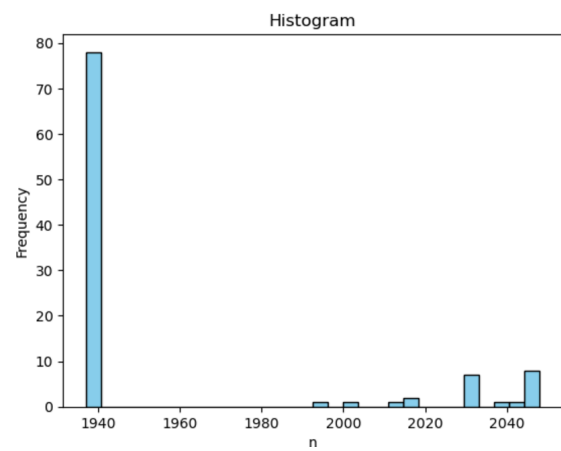


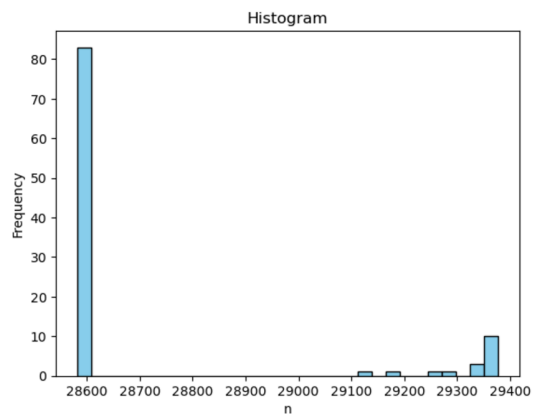3x2:



3x5:

5x3:



Histogram

12x3:



Histogram

8x7:



Histogram

20x20:



Based on the above plots, my time complexity is roughly a*b. I conclude this because when I double either a or b, the total steps roughly doubles. And when I double both, the timestep quadruples.

THe order of a & b does seem to matter slightly. THis is because the turing machine spends more time running back and forth along the second number.