Game of Life Read Me

The design or structure that was given is a 2d Array, which is the board. The height and width of the board is (n) and (m) respectively. When my program runs it traverses through the board to make the new updated version of the board. I malloc a new board of the same size which is the board that will be updated. I then traverse through the original board and check the conditions to see it that specific cell is dead or alive and then I update my new board after the conditions are determined. I then copy my board to a new board and return that one. These operations take 9(n*m) because traversing is the n*m but I go through this process 8 times when checking the conditions and then an additional time to update the board. This means that the update method takes O(n*m) time to run through.

The biggest challenge I faced when optimizing this method was getting the new updates to the new board. I had trouble mallocing because I forgot to put a pointer on the stack that allows me to access that allocated memory. Also writing in Assembly for the first time was a little tricky because I had to constantly figure out which values, which registers were holding.