

WriteUp.pdf

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January 2023

1 Introduction

In this Assignment I have learned about dynamically allocating memory, using 2-D Arrays, and using the curses library.

For this assignment I had to learn how to dynamically allocate memory for the universes I was creating. I had to use functions such as malloc and calloc, to allocate memory for my arrays and universe cells.

Programmers often utilize a technique called dynamic memory allocation to allocate memory during runtime. This method gives the software flexibility and makes good use of memory space.

A 2-D array is a collection of elements arranged in a grid of rows and columns. It allows for efficient organization and storage of data in tabular form for easy manipulation.

The ncurses library is a programming tool used for creating text-based user interfaces in a terminal. It provides functions for manipulating text and controlling the cursor position.

1.1 Where I implemented these concepts

I used these concepts in-terms of memory allocation for the universes. Malloc and allocate were called on with the u pointer in my universe file and were called to allocate memory for my universe A and universe B. I used the 2-D arrays to create the rows and cols for the universe. These were the are where the live or dead cells in the neighborhood. IN my universe.c file I used these two methods and I also used free() to free memory from the allocated memory. Furthermore I used functions such as fprintf and fscanf to open and close files and read them. I used fprintf to bring out my help function messages as they can only be done so when using the man get opt. I used then curses library

1.2 ncurses Library

I used the ncurses function to print out my rows and cols. I used the initscr to initialise the ncurses and set up game. I used the refresh to refresh the function. I used the endwin to end the game. and exit the program.

1.3 What I learned

Through out the assignment I learned how to use these tools and libraries. I learned how to dynamically allocate memory and how to free it. I also learned how to use the curses library and its function to create the game of life. A challenge I faced was understanding how to swap the universes in my life.c file. I used the ? operator to regulate between the two universes and at the end of the loop I created a temp var to store uniA in while uniB is in use.