Development Techniques: Project Report

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Abstract

The main purpose of the project was creating a Game of Life Project. We did it using C++ and additionally some other tools like Cmake were used to make our development more robust and efficient. Additionally it was required to use Cunit to do tests. As we know automating testing is a much better approach than doing it manually. Other than that we also used git version control

Table – Main Logic

The main logic of the code is in the table.cpp file. This piece of code generates the table (in essence a board) for the user and it could be used as an interface between the user and the code itself

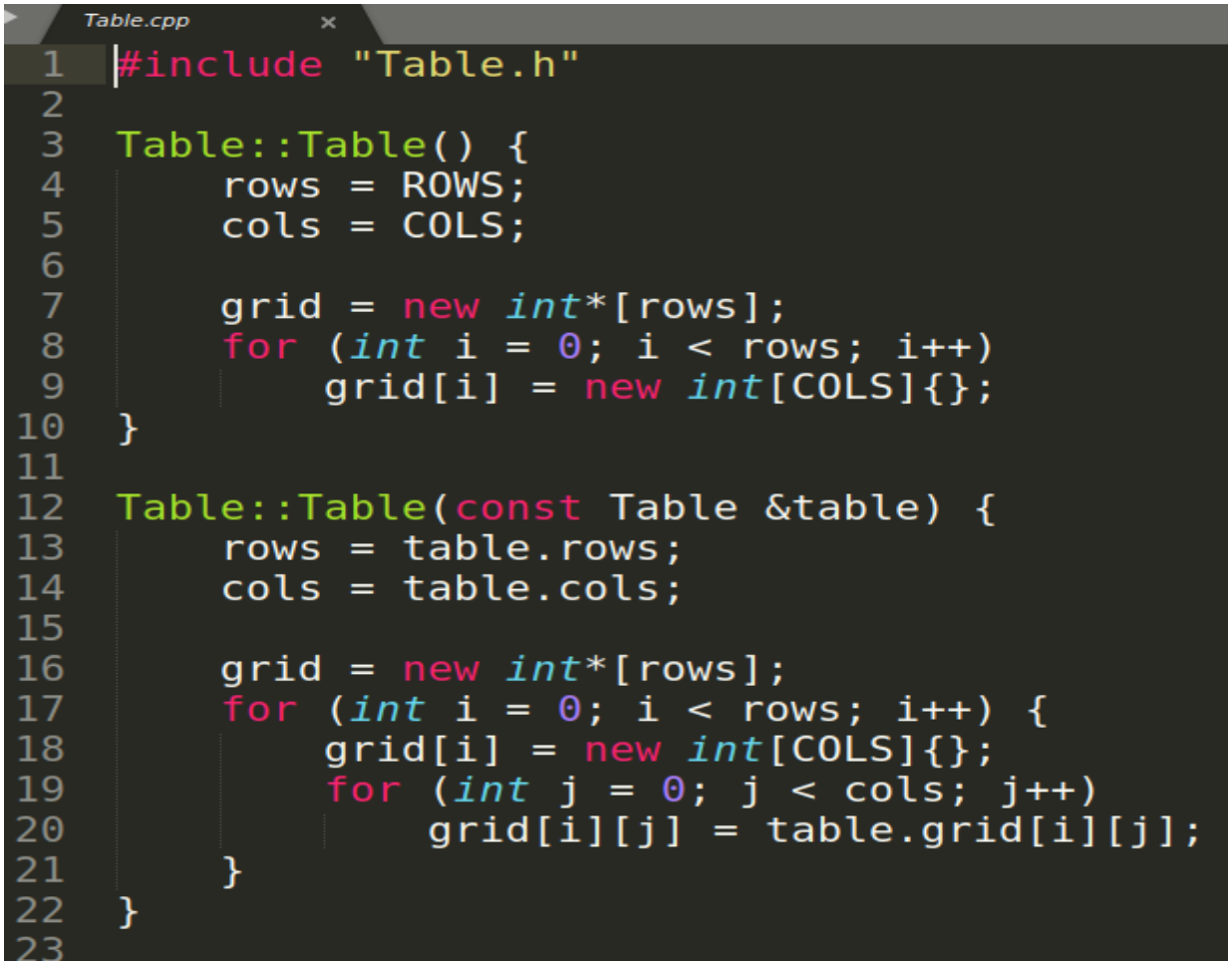


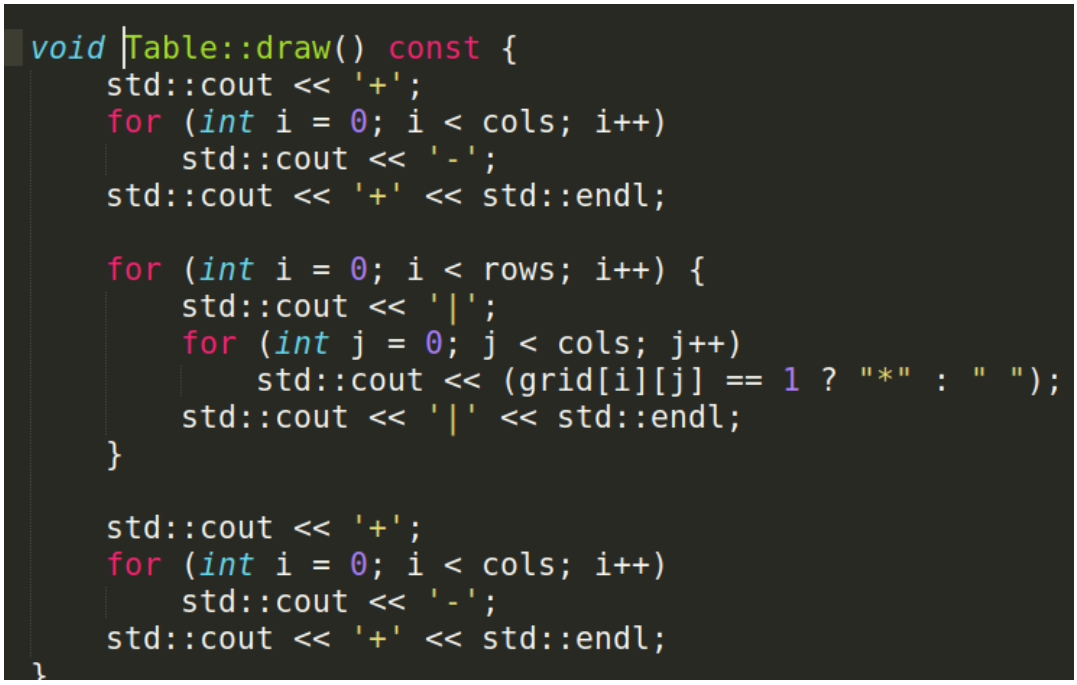
Table Implementation

Table implementation was carried out using different functions. These functions provide the user means of interaction with the game logic. Functions include:

- Table::getCellState()
- Table::setCellState()
- Table::getNeighboursCount()
- Table::draw()

Drawing Table

Table::draw() function draws the table for the user. It displays the board, its borders and its contents:



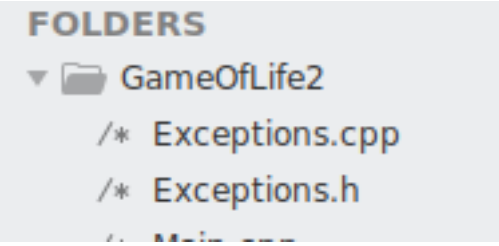
```
void Table::draw() const {
    std::cout << '+';
    for (int i = 0; i < cols; i++)
        std::cout << '-';
    std::cout << '+' << std::endl;

    for (int i = 0; i < rows; i++) {
        std::cout << '|';
        for (int j = 0; j < cols; j++)
            std::cout << (grid[i][j] == 1 ? "*" : " ");
        std::cout << '|' << std::endl;
    }

    std::cout << '+';
    for (int i = 0; i < cols; i++)
        std::cout << '-';
    std::cout << '+' << std::endl;
}
```

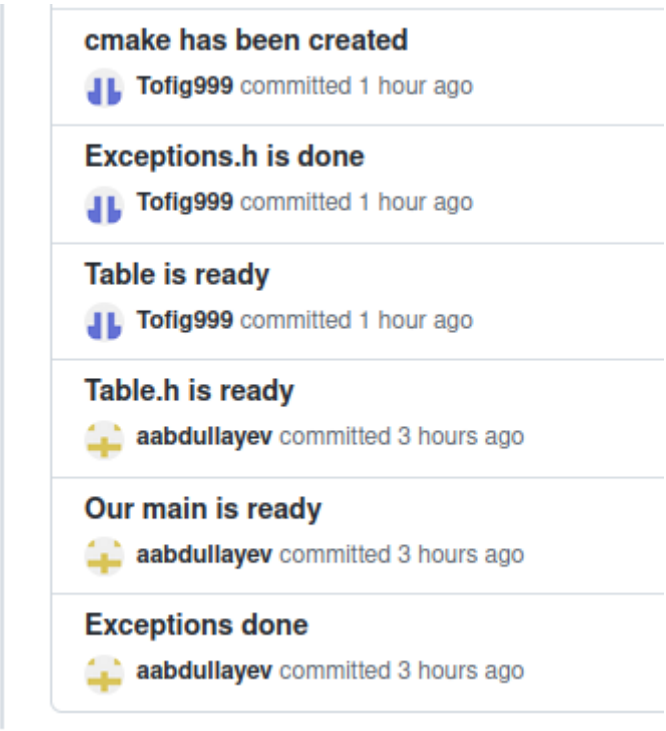
Exception Handling

The whole program apart from containing the game logic also has some exception handling to prevent incorrect inputs from user. Exceptions were handled mainly using code from Exception.cpp file:



Git

Git version control was very helpful during this project. We were together using GitHub and went on to commit on our own branches.



Conclusion

Overall, as a result of completing this project we learned a huge amount of new technologies in development and especially Git version control which is widely used in software development industry