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Design:
The program is broken into two parts the main.cpp and Game.cpp. Main.cpp is were most user interaction is managed and all data is stored. Game.cpp were the board is manipulated and checked for win and tie states.

- Main.cpp
    - Prompt the user for game options: 2 player or ai, default size or other
    - Create the board and call initialize
    - Output instructions
    - Create the game loop
        - Tell which player is playing
        - Get player input
        - Update the game state
        - Check if the game has been won
            - If so output which player has won
        - Check for a draw
            - If so output that there was a draw
        - Update the player
        - (loop if game is still on)
- Game.cpp
    - In the constructor seed random
    - void makePlay(int row,int column,char **board,bool player)
        - Takes in a row, column and player and adds that players symbole to the board.
    - bool checkWin(char **board, bool player,int n);
        - Determine what simbole to check
        - Check diagonal, vertical and horizontal win conditions.
        - Return false if the game has been won
    - void printBoard(char **board, int n)
        - Print out the board with a | between each item and a \n between each row
    - void iniBoard(char **board,int n)
        - Set all chars in the array to '*'
    - void getInput(char **board,int n,bool player,bool useAi)
        - Prompt the user for input
        - Verify that it input is within the bounds of the board
        - Verify that the input is into a valid position
    - bool checkDraw(char **board,int n)
        - Count the number of non '*' and if it's equal to board size^2 then call a draw

Troubleshooting:
In the first iteration I used a string to get user input. I moved away from this approach as handling double or triple digit numbers was going to be a pain.

Aside from that most of my time was spent altering the initial version to allow for variable boards and “Ai”.

Testing:
Testing was required a couple of things:

- Can the Ai play on a board of any size?
    - Tested on 2x2 and 100x100 boards and the ai made plays without issues
- Can the players play on a board of any size?
    - Tested by inputting max and min answers and then 3-5 random spots
- Can the game decide a victory or tie on a 3x3 4x4 and 5x5 grid?
    - Tested all 3 by doing:
        - Row victory
        - Bouth diagonal victories
        - Collume victory
        - Tie