**BATTLESHIP**

**PROJECT 2**

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**https://github.com/koa2019/danielle\_csc17A\_48290/tree/main/projects/project\_2**

**Version 1:**

* Removed code for writing and reading to Binary and text files.
* Changed Choices struct to a class. Added constructor, destructor, and functions.
* Created 2 different game boards that were randomly filled with ships.

**Version 2**:

* Scratched v1 because it was to complicated to convert a double pointer structures to inherited classes all at once and not being able to test certain parts to see which section of the game works and doesn't work.
* This version is taking each structure individually and making it a class that's independent of one another. Converted Choices to class first. Created 2 game board objects and called them in main().
* Converted Score to a class. Created its class member functions, called it main().
* Started converting player.h to a class & called it in main().
* Moved the contents of fillScore() into main() and I'm able to create objects for all 3 classes.
* Moved play() into Player.h

**Version 3:**

* Player class now aggregates an instance from the Choices class and saves game board to the Player's profile.
* Made a double pointer from Player class. \*\*player points to an array of player pointers because I need 2 independent player objects to represent player1 and player2.
* Moved the game from functions into main() and play() is now a function of main.
* Play() utilizes polymorphism by passing ref of each player's object and resets class member variables depending on a player's guess being correct or not.

**Version 4:**

* Added a try/catch to Score.cpp in setTtlGmes().
* Created an array of objects utilizing the Score class.
* Score inherits Player class.

**Version 5:**

* Created 3 new classes: HighScores, PlayScore and ChoicesTemplate.
* PlayScore has a static member and prints its value in main().
* PlayScore has a copy constructor that copies parent1 object into parent2 object.
* I attempted to make HighScores a friend of PlayScore but kept getting an error in HighScore that “PlayScore was not declared”. I commented out the code in main.
* I couldn’t convert Choices.h to a template without messing up Player class because it aggregates it. I copied Choices to ChoicesTemplate and ran it as a class with a char pointer array. I converted it to a vector template, but the program kept crashing. I commented out its instances in main().
* Fixed friend class in HighScore.h by defining the entire class as friend instead of a single function.
* Added overloaded operator++ and operator—to HighScore
* Made a base class call a derived class. Score calls a function of Player

**UML**

Diagram

Description automatically generated