hw01 - UML Class Diagram
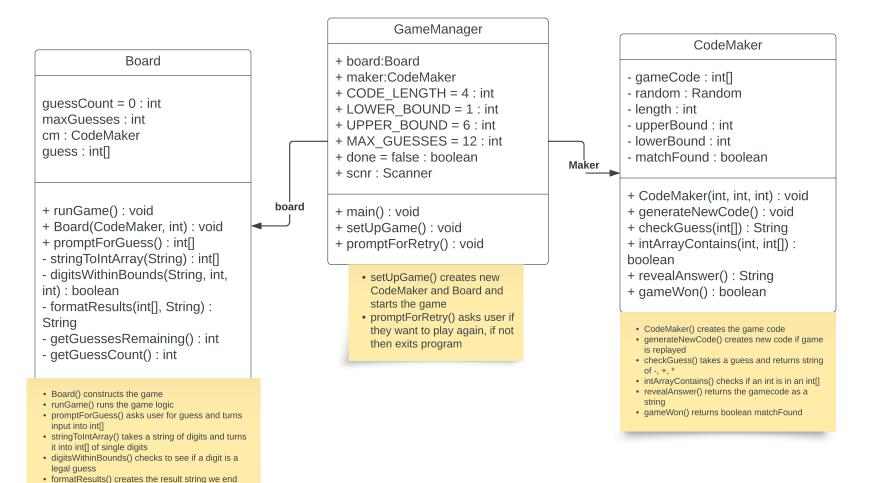
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GameManager

+ board:Board
+ maker:CodeMaker
+ CODE_LENGTH = 4 : int
+ LOWER_BOUND = 1 : int
+ UPPER_BOUND = 6 : int
+ MAX_GUESSES = 12 : int
+ done = false : boolean
+ scnr : Scanner

+ main() : void
+ setUpGame() : void
+ promptForRetry() : void

- setUpGame() creates new CodeMaker and Board and starts the game
- promptForRetry() asks user if they want to play again, if not then exits program

Board

guessCount = 0 : int
maxGuesses : int
cm : CodeMaker
guess : int[]

+ runGame() : void
+ Board(CodeMaker, int) : void
+ promptForGuess() : int[]
- stringToIntArray(String) : int[]
- digitsWithinBounds(String, int, int) : boolean
- formatResults(int[], String) : String
- getGuessesRemaining() : int
- getGuessCount() : int

- Board() constructs the game
- runGame() runs the game logic
- promptForGuess() asks user for guess and turns input into int[]
- stringToIntArray() takes a string of digits and turns it into int[] of single digits
- digitsWithinBounds() checks to see if a digit is a legal guess
- formatResults() creates the result string we end up printing

board

CodeMaker

- gameCode : int[]
- random : Random
- length : int
- upperBound : int
- lowerBound : int
- matchFound : boolean

+ CodeMaker(int, int, int) : void
+ generateNewCode() : void
+ checkGuess(int[]) : String
+ intArrayContains(int, int[]) : boolean
+ revealAnswer() : String
+ gameWon() : boolean

- CodeMaker() creates the game code
- generateNewCode() creates new code if game is replayed
- checkGuess() takes a guess and returns string of -, +, *
- intArrayContains() checks if an int is in an int[]
- revealAnswer() returns the gamecode as a string
- gameWon() returns boolean matchFound

Maker