NimGUI

- frame: JFrame
- heapIndexField: JTextField
- objectsToRemoveField: JTextField
- submitButton: JButton
- heapsInfoLabel: JLabel
- heapIndex: int
- objectsToRemove: int

+ NimGUI()
- updateUI(heaps: ArrayList<Integer>, player1Turn: boolean, vsAI: boolean): void
+ displayMessage(message: String): void
+ isInputReady(): boolean
+ getHeapIndex(): int
+ getObjectsToRemove(): int
- handlePlayerInput(): void
+ resetInput(): void
+ dispose(): void

Main

- frame: JFrame
- panel: JPanel
- label: JLabel
- start: JButton
- quit: JButton
- random: Random
- scanner: Scanner
- choice: int
- ticTacToeBoard: char[][]

+ Main()
+ main(String[]) : void
- displayInstructions() : void
- startGame() : void
- placeBlockGUI(char[][], char, boolean) : void
- showBoardGUI(char[][]) : void
- placeAIMove(char[][], JButton[][], char) : void
- resetBoard() : void
- disableButtons(JButton[][]) : void
+ isBoardFull(char[][]) : boolean
+ isWinner(char[][], char) : boolean

Game

- result : int

+ getResult() : int

Extends

Extends

Extends

NumberGame

- frame: JFrame
- panel: JPanel
- label1: JLabel
- roll: JButton
- topLeftLabel: JLabel
- topRightLabel: JLabel
- isPvP: boolean
- player1Value: int
- player2Value: int
- pgAI: int
- pg4: int

+ NumberGame()
- initializeUI(): void
+ setGameMode(mode: int): void
+ startGame(): void
- playTwoPlayers(random: Random): void
- playVsAI(random: Random): void
- getPlayerGuess(): int
- updatePlayerValues(): void
- updateUIAfterGame(): void
- resetGame(): void

Connect 4

- ROWS: int
- COLS: int
- EMPTY: char
- PLAYER1: char
- PLAYER2: char
- board: char[][]
- random: Random
- player1Turn: boolean
- buttons: JButton[]
- slots: JLabel[][]
- frame: JFrame

+ Connect4()
+ initializeBoard(): void
+ initializeUI(): void
+ handleButtonClick(int): void
+ dropPiece(int, char): boolean
+ checkWin(char): boolean
+ updateBoard(): void
+ isBoardFull(): boolean
+ resetGame(): void
+ playGame(): void
+ playGameAgainstAI(): void

Nim

- gui: NimGUI
- result: int

+ initializeUI(): void
+ startGame(choice: int): void|
- isGameOver(heaps: ArrayList<Integer>): boolean