```
Tile
- value : int
+ Tile()
+ Tile(num : int)
+ isEmpty() : boolean
+ getValue() : int
+ setValue(val : int) : void
+ toString() : String
+ clone() : Tile
```

```
Board
- gameSize : int
- board : Tile[][]
- score : int
+ Board()
+ Board(size : int)
+ Board(size : int, newScore : int)
+ Board(filename : String)

+ loadBoardState(filename : String) : void
+ reset() : void
+ countEmptySpaces() : int
+ getScore() : int
+ isFull() : boolean
+ canMove() : boolean
+ addTile() : void

+ rotateCW() : void
+ left() : boolean
+ right() : boolean
+ up() : boolean
+ down() : boolean
+ quit() : void

+ toString() : String
+ copyBoard() : Board
```

```
<<enumerations>>
UserAction
LEFT
RIGHT
UP
DOWN
QUIT
RESET
INVALID
```

```
Game2048View
- currentBoard : Board
+ Game2048View(Board brd)

+ setBoard(Board brd) : void

+ getUserAction() : UserAction

+ updateDisplay() : void
```

Game2048Controller
- board : Board
- view : Game2048View
+ Game2048Controller(b : Board, v : Game2048View)
+ runGame() : void

Game2048
- board : Board
- view : Game2048View
- controller : Game2048Controller
+ Game2048 ()
+ runGame() : void