**class** BoardLine

**types**

**public** Player = **<White>** | **<Black>**;

**public** Line = **map** **nat1** **to** Cell

**inv** l == **card**(**dom**(l)) = 9 **and** **dom**(l) = {1,...,9};

**values**

-- TODO Define values here

**instance** **variables**

**private** line : Line;

**private** y : **nat1**;

**inv** y **in** **set** {1,...,9};

**operations**

**public** BoardLine: **seq** **of** Cell \* **nat1** ==> BoardLine

BoardLine(cells, yi) ==

(y:=yi;

line:= {x|->cell | x **in** **set** {1,...,9}, cell

**in** **set** **elems**(cells) & cell.x = x };

)

**pre** **len** cells = 9

**post** **forall** cell **in** **set** **elems**(cells) & cell.y = yi **and** yi = y;

**public** getCell: **nat1** ==> Cell

getCell(r) == **return** line(r)

**pre** r **in** **set** **dom**(line)

**post** line = line~;

**public** getCells: Player ==> **set** **of** Cell

getCells(p) == **return** { c | c **in** **set** **rng** line & c.piece **<>** **nil** **and** c.piece.belongTo = p };

**public** getEmptyCells:() ==> **set** **of** Cell

getEmptyCells() == **return** { c | c **in** **set** **rng** line & c.piece = **nil** };

**end** BoardLine