## **AbstractGridBuilder** << Property>> -hSize : int << Property>> -vSize : int << Property>> - constraint Teleport : GridConstraint << Property>> - constraint Light Grenade : Grid Constraint << Property>> - constraintIdentityDisk : GridConstraint << Property>> - constraintWall : GridConstraint << Property>> - constraint Force Field Generator: Grid Constraint <<Pre><<Pre>color #walls : ArrayList<Wall> +AbstractGridBuilder() #placeItem(square : Square, item : Item) : void #getWalls(): ArrayList<Wall> #randomLocations(constraint : GridConstraint) : ArrayList<Coordinate> #placeWalls(walls: ArrayList<ArrayList<Coordinate>>): void #placeTeleports(coordinates: ArrayList<Coordinate>): void -linkTeleports(teleports : ArrayList<Teleport>, destinations : ArrayList<Square>, linkRandomly : I #getChargedIdentityDiskLocation(): Coordinate #setSquares(): void #build(): void +getPlayerOneCoordinate(): Coordinate +getPlayerTwoCoordinate(): Coordinate #placeLightGrenade(coordinates : ArrayList<Coordinate>) : void #placeIdentityDisk(coordinates : ArrayList<Coordinate>) : void #placeChargedIdentityDisk(coordinate : Coordinate) : void #placeForceFieldGenerators(coordinates : ArrayList<Coordinate>) : void

## -br : BufferedReader -free\_squares : ArrayList<Coordinate> -not\_squares : ArrayList<Coordinate> -wall\_squares : ArrayList<Coordinate> -player1 : Coordinate -player2 : Coordinate +FileGridBuilder(filepath : String) #setConstraints(): void #build(): void -readInput(): void -openFileStream() : void -closeFileStream(): void -parseFile() : void -setPlayerOneCoordinate(coordinate: Coordinate): void -setPlayerTwoCoordinate(coordinate: Coordinate): void #setSquares(): void -getWallsLocation(): ArrayList<ArrayList<Coordinate>> -getWallSequence(coordinate : Coordinate, direction : Direction) : ArrayList +checkConsistency(): void +getPlayerOneCoordinate() : Coordinate

+getPlayerTwoCoordinate(): Coordinate

**FileGridBuilder** 

-file : File

## RandomGridBuilder +MIN\_HSIZE: int = 10 $+MIN_VSIZE : int = 10$ +RandomGridBuilder()

+RandomGridBuilder(hSize: int, vSize: int)

+isValidHSize(hSize: int): boolean +isValidVSize(vSize : int) : boolean

#build(): void

-setConstraints(): void

~getWall(candidates: ArrayList<Coordinate>, maxWallLength: int): ArrayList<Coordin ~removePerimeter(coordinates: ArrayList<Coordinate>, candidates: ArrayList<Coordinate>

+getCoordinatesOfWalls(walls: ArrayList<Wall>): ArrayList<Coordinate>

-getSquaredLocation(start : Coordinate, direction : Direction, size : int) : ArrayList<Coo

+getPlayerOneCoordinate(): Coordinate +getPlayerTwoCoordinate(): Coordinate

#randomWallLocations(constraint: GridConstraint): ArrayList<ArrayList<Coordinate>>

#setSquares(): void