## matrixObject # int location # bool isAlive # bool canMove # int hitsLeft # objectType oType + matrixObject() + matrixObject(int row, int col, objectType objectType) + virtual ~matrixObject() + const int \* getLocation() const + void setLocation(int row, int col) + bool getIsAlive() const + bool getCanMove() const + void takeAHit() + objectType getType() const movingObject # orientation orient # int oldLocation + movingObject(int row, int col, objectType oType, orientation orient) + virtual ~movingObject() + int \* newLocation(int numOfCols, int numOfRows, bool atReverse=false) const + const int \* getOldLocation() const + void setNewLocation(int newRow, int newCol) + orientation getOrientation() const tank + tank(int row, int col, orientation orient, objectType oType) + void setOrientation(orientation newOrient)

+ bool canShoot() const

# int turnsUntilNextShot # int calcMoveRound

# vector< objMove > moves

- + void updateTurn()

+ ~tank() override

# int shotsLeft # int inBackwards

- + void useShot()
- + int getInBack() const + void setInBackwards(int inBack)
- + virtual objMove play(const vector< vector< array< matrixObject \*, 3 > > &gameBoard, const int otherLoc[2], int numOfCols, int numOfRows)=0

  - + bool isSafe(int x, int y, const vector< vector< array< matrixObject \*, 3 > > &gameBoard, int numOfCols, int numOfRows, int movesAhead) const
  - + vector< objMove > getRotations(orientation start, orientation desired) const
  - + bool canSeeOtherTank(const int otherLoc[2], const vector< vector< array< matrixObject \*, 3 > > &gameBoard, int numOfRows, int numOfCols) const
  - + bool hasBullets() const
  - + int getNumOfShotsLeft() const



## p1Tank

- + p1Tank(int row, int col, orientation orient)
- + objMove play(const vector< vector< array< matrixObject \*, 3 > > &gameBoard, const int otherLoc[2], int numOfCols, int numOfRows) override
- + vector< objMove > playCalc(const vector< vector< array< matrixObject \*, 3 > > &gameBoard, const int tank2Loc[2], int numOfRows, int numOfCols)