```
~numLayers: int
                                                                                                  #opGrid: Grid
                                                                                                                                                                                                                                                -bidAmount: int
 ~maxP: Point
                                                                                                  #teamName: String
                                                                                                                                                                                                                                                -landP: Point
 -grid[][]: Cell
                                                                                                  #bidQueue: LinkedList<Bid>
                                                                                                                                                                                                                                               +noOwner = "Not Owned.": String
                                                                                                                                                                                                                                                +won = false: boolean
+LAYER = 0: int
                                                                                                  #seismicQueue: LinkedList<SeismicRequest>
+OIL = 1: int
                                                                                                  #drillQueue: LinkedList<Drill>
                                                                                                                                                                                                                                               +Bid(Operator owner, int bidAmount, Point land): ctor
+GAS = 2: int
                                                                                                  #bank: BankAccount
                                                                                                                                                                                                                                               +Bid(Operator operator, String socketIn): ctor
                                                                                                  +socket: Messages
+ROCK = 3: int
                                                                                                                                                                                                                                                +Bid(String socketIn): ctor
-fudgeValue = 10: int
                                                                                                  +Operator(String teamName, Messages socket): ctor
                                                                                                                                                                                                                                                -parseSocket(String[] socket): void
-gridSize: int
                                                                                                   +Operator(String teamName): ctor
                                                                                                                                                                                                                                                +checkValid(int bankLimit, Point maxP): boolean
 -removePercentage = 70: double
                                                                                                  +getName(): String
                                                                                                                                                                                                                                               +getPoint(): Point
 -layers: LithologicType[]
                                                                                                  +setSocket(Messages s): void
                                                                                                                                                                                                                                               +compareTo(Bid in): int
-surfaceDepth: int
                                                                                                  +closeSocket(): void
                                                                                                                                                                                                                                               +equalsLand(Bid other): boolean
+owner: String
                                                                                                  +newBid(String socketIn): void
                                                                                                                                                                                                                                               +equals(Object other): boolean
+layers: Integer[]
                                                                                                  +newSeismicRequest(String socketIn): void
                                                                                                                                                                                                                                               +toSocket(): String
+gas: Integer[]
                                                                                                  +newDrillRequest(String socketIn): void
                                                                                                                                                                                                                                               +toString(): String
+oil: Integer[]
                                                                                                  +removeBid(String socketIn): void
                                                                                                                                                                                                                                               +setWon(): void
+xCoord: int
                                                                                                  +removeSeismicRequest(String socketIn): void
                                                                                                                                                                                                                                               +won(): boolean
+yCoord: int
                                                                                                  +removeDrillRequest(String socketIn): void
+rocktype: LithologicType[]
                                                                                                  +removeFromQueue(Action remove, LinkedList<? extends Action> queue): void
                                                                                                                                                                                                                                                                             shared.action::SeismicRequest
 +isDrilled: boolean
                                                                                                  +getBidQueue(): LinkedList<Bid>
                                                                                                                                                                                                                                               -startP: Point
+isOwned: boolean
                                                                                                  +getSeismicQueue(): LinkedList<SeismicRequest>
+seismicExists: boolean
                                                                                                                                                                                                                                                -endP: Point
                                                                                                  +getDrillQueue(): LinkedList<Drill>
+layerExists: boolean[]
                                                                                                   +resetBidQueue(): void
                                                                                                                                                                                                                                               +SeismicRequest(Operator owner, Point startP, Point endP): ctor
+Grid(Point max, int layerCount): ctor
                                                                                                  +resetSeismicQueue(): void
                                                                                                                                                                                                                                               +SeismicRequest(Operator owner, String in): ctor
                                                                                                  +resetDrillQueue(): void
+Grid(): ctor
                                                                                                                                                                                                                                               +checkValid(Point maxP): boolean
 ~Cell(int layerCount, int x, int y): ctor
                                                                                                  +getBank(): BankAccount
                                                                                                                                                                                                                                               +toString(): String
                                                                                                  +getBankBalance(): int
 ~Cell(int x, int y): ctor
                                                                                                                                                                                                                                               +toSocket(): String
+getGridSize(): int
                                                                                                                                                                                                                                                +aetNumCells(): int
                                                                                                  +setBankBalance(int amount): void
+setLimits(Point max, int layerCount): void
                                                                                                  +updateBankBalance(int amount): void
                                                                                                                                                                                                                                               +getStartP(): Point
+initializeAll(): void
                                                                                                  +bidResult(Bid bid): void
                                                                                                                                                                                                                                                +getEndP(): Point
-initializeCell(int x, int y): void
                                                                                                  +seismicRequestResult(String in): void
                                                                                                                                                                                                                                                -getSeismicCost(): int
                                                                                                  +oilInfo(String in): void
+importCSV(File file, int level, int type): void
                                                                                                                                                                                                                                                +getPoints(): Point[]
-parseCSV(CSVReader reader, int type, int level): void
                                                                                                  +gasInfo(String in): void
                                                                                                                                                                                                                                                +equals(Object other): boolean
+setGridSize(int size): void
                                                                                                  +rockInfo(String in): void
 +setOwner(String owner, Point loc): void
                                                                                                  +drillRequestResult(Point p, Integer[] gas, Integer[] oil, LithologicType[] rock): void
                                                                                                                                                                                                                                                                              shared.action::Drill
                                                                                                                                                                                                                                                                                                                                                         shared.action::Event
+setLayers(Point loc, Integer[] layers): void
                                                                                                  +drillRequestResult(String in): void
                                                                                                                                                                                                                                                        -landP: Point
                                                                                                                                                                                                                                                                                                                                         -description: String
                                                                                                  +getGrid(): Grid
+setAllLayers(int[] layers): void
+getAllLayers(): int[]
                                                                                                  +toString(): String
                                                                                                                                                                                                                                                        -depth: int
                                                                                                                                                                                                                                                                                                                                         +Event(Operator owner): ctor
+setLayersSocket(String in): void
                                                                                                                                                                                                                                                         +Drill(Operator owner, Point p): ctor
                                                                                                                                                                                                                                                                                                                                         +setEventLogin(): void
+setOil(Point loc, Integer[] oil): void
                                                                                                                                                                                                                                                                                                                                         +setEventLogout(): void
                                                                                                                                                                                                                                                         +Drill(Operator owner, String socketIn): ctor
                                                                                                                                                                                           shared::Messages
                                                                                                              shared.action::Action
 +setOilSocket(String in): void
                                                                                                                                                                                                                                                                                                                                        +setEventNewRound(int curRound): void
                                                                                                                                                                                                                                                        -parseSocket(String[] socket): void
+setGas(Point p, int gas, int depth): void
                                                                                                  #seismicSetup: int
                                                                                                                                                                   +TESTMODE = false: boolean
                                                                                                                                                                                                                                                        +checkValid(Point p): boolean
                                                                                                                                                                                                                                                                                                                                         +toString(): String
 +setOil(Point p, int oil, int depth): void
                                                                                                  #seismicRate: int
                                                                                                                                                                  #sock: Socket
                                                                                                                                                                                                                                                        +getData(Grid grid): String
+setLayer(Point p, Integer layer, int depth): void
                                                                                                  +drillCost: int
                                                                                                                                                                  #sockOut: PrintWriter
                                                                                                                                                                                                                                                        +toSocket(): String
+setRock(Point p, LithologicType rock, int depth): void
                                                                                                  +oilRate: int
                                                                                                                                                                  #sockIn: BufferedReader
                                                                                                                                                                                                                                                        +getPoint(): Point
+setRock(Point loc, LithologicType[] rock): void
                                                                                                  +gasRate: int
                                                                                                                                                                  #IP: String
                                                                                                                                                                                                                                                        +equals(Object other): boolean
 +setRock(Point loc. int[] rocks); void
                                                                                                  \#minBid = 0: int
                                                                                                                                                                   #operator: Operator
                                                                                                                                                                                                                                                      +toString(): String
+setGas(Point loc, Integer[] gas): void
                                                                                                                                                                  #name: String
                                                                                                  #owner: Operator
+setGasSocket(String in): void
                                                                                                  #timeStamp: Date
                                                                                                                                                                  -child: Messages
+setRockSocket(String in): void
                                                                                                  #beginBalance: int
                                                                                                                                                                   ~prefixMap: Map<String. Prefix>
 +setDrilled(Point p, boolean in): void
                                                                                                  #cost: int
                                                                                                                                                                   +Messages(Socket sock): ctor
+setDrilledSocket(String in): void
                                                                                                  +Action(Operator owner): ctor
                                                                                                                                                                   -initializeSocket(Socket sock): void
                                                                                                                                                                                                                                                                    shared::BankAccount
-getArrayFromString(String array): Integer[]
                                                                                                                                                                   -createPrefixMap(): void
                                                                                                   +Action(): ctor
 -getLayerArrayFromString(String array): Integer[]
                                                                                                                                                                                                                                                        -startingBalance: int
                                                                                                  +setOwner(Operator owner): void
                                                                                                                                                                   +addChild(Messages child): void
                                                                                                                                                                                                                                                        -curBalance: int
-getRockArrayFromString(String array): LithologicType[]
                                                                                                   +setSeismicSetup(int amount): void
                                                                                                                                                                   +run(): void
                                                                                                                                                                                                                                                       #unusableFunds: int
-getExistsArrayFromString(String string): boolean[]
                                                                                                  +setSeismicRate(int amount): void
                                                                                                                                                                  -parse(String in): void
+addRock(LithologicType rock, int layer): void
                                                                                                                                                                                                                                                        -income: int
                                                                                                                                                                  +parse(String in, Prefix pr): void
                                                                                                  +setMinBid(int amount): void
 +getGas(Point p, int depth): int
                                                                                                                                                                                                                                                        +BankAccount(): ctor
                                                                                                                                                                   +sendMessage(Prefix p, String message): void
                                                                                                  +getMinBid(): int
 +getGasArray(Point p): Integer[]
                                                                                                                                                                                                                                                        +setStart(int start): void
                                                                                                                                                                   +close(): boolean
                                                                                                  +getCost(): int
+aetGasSocket(Point p): String
                                                                                                                                                                                                                                                        +getStart(): int
                                                                                                  +setDrillCost(int amount): void
                                                                                                                                                                   +setOperator(Operator operator): void
 +aetOil(Point p, int depth): int
                                                                                                                                                                                                                                                         +getAdjustedBalance(): int
                                                                                                   +setOilRate(int amount): void
 +getOilArray(Point p): Integer[]
                                                                                                                                                                                                                                                        +getBalance(): int
                                                                                                  +setGasRate(int amount): void
+getOilSocket(Point p): String
                                                                                                                                                                                                                                                        +updateFunds(int amount): void
                                                                                                  +getOwner(): Operator
+getLayer(Point p, int depth): Integer
                                                                                                                                                                                                                                                        +setBalance(int amount): void
                                                                                                  +setSeismicCosts(String in): void
+getLayerArray(Point p): Integer[]
                                                                                                   +seismicCostsToSocket(): String
                                                                                                                                                                                                                                                        +adjustIncome(int inIncome): void
+getSurfaceElev(Point p): int
                                                                                                                                                                                                                                                        +aetIncome(): int
                                                                                                  +equals(Object other): boolean
 +getSurfaceLayer(Point p): int
                                                                                                                                                                                                                                                        +changeUnusable(int amount): void
                                                                                                  +toString(): String
+incSurfaceLayer(): void
                                                                                                                                                                                                                                                        +resetUnusable(): void
                                                                                                  +toSocket(): String
+decSurfaceLayer(): void
                                                                                                                                                                                                                                                        +applyIncome(): void
+goToSurface(): void
                                                                                                                                                                                                                                                                                                                                         shared::LithologicType
 +getHighestSurface(): Point
+getLowestSurface(): Point
                                                                                                   -rockCode: int
 +getHighestSurfaceElev(): int
                                                                                                   -fullName, shortName, imagePath: String
+getLowestSurfaceElev(): int
                                                                                                   -abbrNames = { "Grv or Cgl (1)", "Grv or Cgl (2)", "x-bd Grv or Cgl", "", "Brec (1)", "Brec (2)", "Mass Sd. or Sst", "Bd Sd. or Sst", "x-bd Sd. or Sst (1)",
+getElevationRange(): int
                                                                                                  "x-bd Sd. or Sst(2)", "Rpl-Bd Sd. or Sst", "arg or sh Sst",
+getLayersSocket(Point p): String
                                                                                                  calc Sst", "dol Sst", "", "Slt, Sltst, or sh Slt", "calc Sltst", "dol Sltst", "sdy or slty Sh", "Cl or Cl Sh", "cht Sh", "dol Sh", "calc Sh or marl", "carb Sh", "o Sh", "Chk", "Ls", "
+getRockSocket(Point p): String
                                                                                                  "clas Ls", "foss clas Ls", "nod or irr Bd Ls", "Ls, irr (Bur?) fillings of sacc Dol",
+qetRockArray(): LithologicType[]
                                                                                                  "x-bd Ls", "cht x-bd Ls",
+getRockArray(Point p): LithologicType[]
                                                                                                  cht and sdy x-bd clas Ls", "ooc Ls", "sdy Ls", "slty Ls", "arg or sh Ls", "cht Ls (1)", "cht Ls (2)", "dol Ls or Imy Dol", "Dolst or Dol", "x-bd Dolst or Dol", "ooc Dolst or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "Dolst or Dol", "x-bd Dolst or Dol", "ooc Dolst or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "Dolst or Dol", "x-bd Dolst or Dol", "ooc Dolst or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "Dolst or Dol", "x-bd Dolst or Dol", "ooc Dolst or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "Dolst or Dol", "x-bd Dolst or Dol", "ooc Dolst or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "Dolst or Dol", "x-bd Dolst or Dol", "ooc Dolst or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "Dolst or Dol", "x-bd Dolst or Dol", "ooc Dolst or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "black or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "black or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "black or Dol", "cht Ls (2)", "dol Ls or Imy Dol", "black or Dol", "cht Ls (2)", "cht Ls (2)", "dol Ls or Imy Dol", "black or Dol", "cht Ls (2)", "cht Ls (2)", "dol Ls or Imy Dol", "cht Ls (2)", "cht Ls (2)", "dol Ls or Imy Dol", "cht Ls (2)", "cht Ls (
+getRock(Point p, int depth): LithologicType
                                                                                                  "sdy Dolst or Dol", "slty Dolst or Dol",
+exists(Point location): boolean
                                                                                                  arg or sh Dolst or Dol", "cht Dolst or Dol", "Bd Cht (1)", "Bd Cht (2)",
 +isOwned(Point location): boolean
                                                                                                  "foss Bd Cht", "foss Rk", "Diatomaceous Rk", "Sbgwke", "x-bd Sbgwke", "Rpl-Bd Sbgwke", "Peat", "C", "Bony C or impure C", "Uc", "Flint Cl", "Bent", "Blauc", "Lim", "Sid.", "phos-nod Rk", "Gyp",
 +isDrilled(Point location): boolean
                                                                                                  "Sa", "intbd Sst and Sltst", "intbd Sst and Sh",
+seismicExists(Point p): boolean
                                                                                                  "intbd RplBd Sst and Sh", "intbd Sh and slty Ls (Sh dom)", "intbd Sh and Ls (Sh dom) (1)",
 +setSeismicExists(Point p, boolean exists): void
                                                                                                  "intbd Sh and Ls (Sh dom) (2)", "intbd calc Sh and Ls (Sh dom)", "intbd slty Ls and Sh", "intbd Ls and Sh (1)", "intbd Ls and Sh (2)", "intbd Ls and Sh (Ls dom)", "intbd Ls and calc Sh", "Till or diamicton (1)",
                                                                                                   +getOwner(Point p): String
                                                                                                  Sch. and Gns", "Gns", "cntrt Gns", "Soapstone, talc, or serpentinite", "tf Rk", "XI Tf", "devit Tf", "volc Brec and Tf", "volc Brec or Aglm", "Zeolitic Rk", "bas flows", "Grt (1)", "Grt (2)", "bnd Ig", "Ig (1)",
+getDimensions(): Point
 +getNumLayers(): int
                                                                                                  "Ig (2)", "Ig (3)", "Ig (4)", "Ig (5)", "Ig (6)", "Ig (7)", "Ig (8)", "Porphyritic Rk (1)", "Porphyritic Rk (2)", "Vit", "Qtz.", "Ore" }: String[]
+getGridSocket(): String[]
                                                                                                    -fullNames = { "Gravel or conglomerate (1st option)", "Gravel or conglomerate (2nd option)", "Crossbedded gravel or conglomerate", "", "Breccia (1st option)", "Breccia (2nd option)", "Massive sand or sandstone",
                                                                                                  "Bedded sand or sandstone", "Crossbedded sand or sandstone (1st option)", "Crossbedded sand or sandstone(2nd option)", "Ripple-bedded sand or sandstone", "Argillaceous or shaly sandstone", "Calcareous sandstone",
+cellToSocket(Point p): String
 +cellFromSocket(String s): void
                                                                                                   "Dolomitic sandstone", "Silt, siltstone, or shaly silt", "Calcareous siltstone", "Dolomitic siltstone", "Sandy or silty shale", "Clay or clay shale", "Cherty shale", "Dolomitic shale", "Calcareous shale or marl",
+fudge(Integer layer[]): Integer[]
                                                                                                   "Carbonaceous shale", "Oil shale", "Chalk", "Limestone", "Clastic limestone", "Fossiliferous clastic limestone", "Nodular or irregularly bedded limestone", "Limestone, irregular (burrow?) fillings of saccharoidal dolomite"
+getGasRate(Point p): int
                                                                                                  "Crossbedded limestone", "Cherty crossbedded limestone", "Cherty and sandy crossbedded clastic limestone", "Oolitic limestone", "Sandy limestone", "Silty limestone", "Argillaceous or shaly limestone", "Cherty limestone (1st option)",
+aetOilRate(Point p): int
                                                                                                   "Cherty limestone (2nd option)", "Dolomitic limestone, limy dolostone, or limy dolostone or dolomite", "Crossbedded dolostone ordolomite", "Oolitic dolostone or dolomite", "Sandy dolostone or dolomite", "Silty dolostone or dolomite"
+removeEmptyFromArray(Point p, Object[] array): String
                                                                                                   "Argillaceous or shaly dolostone or dolomite", "Cherty dolostone or dolomite", "Bedded chert (1st option)", "Bedded chert (2nd option)", "Fossiliferous bedded chert", "Fossiliferous rock", "Diatomaceous rock", "Subgraywacke", "Crossbedded subgraywacke",
                                                                                                  "Ripple-bedded subgraywacke", "Peat", "Coal", "Bony coal or impure coal", "Underclay", "Flint clay", "Bentonite", "Limonite", "Siderite", "Phosphatic-nodular rock", "Gypsum", "Salt", "Interbedded sandstone and siltstone",
+getLayerExists(Point p): boolean[]
+setLayerExists(Point p, boolean[] none): void
                                                                                                  "Interbedded sandstone and shale", "Interbedded ripplebedded sandstone and shale", "Interbedded shale and limestone (shale dominant)", "Interbedded shale and limestone (shale
+layerExists(Point p, int depth): boolean
                                                                                                   "Interbedded calcareous shale and limestone (shale dominant)", "Interbedded limestone and shale", "Interbedded limestone and shale (1st option)", "Interbedded limestone and shale (1st option)", "Interbedded limestone and shale (limestone and shale (limestone and shale (limestone and shale)", "Interbedded limestone and shale", "Interbedded limestone and shale (1st option)", "Interbedded limestone and shale (limestone and shale)", "Interbedded limestone and shale (1st option)", "Interbedded limestone and shale (limestone and shale)", "Interbedded limestone and shale (limestone and shale)", "Interbedded limestone and shale)", "Interbedde
                                                                                                  +setFudgePercent(int fudge): void
+setRemovePrecent(int parseInt): void
                                                                                                   "Schist", "Contorted schist", "Schist and gneiss", "Gneiss", "Contorted gneiss", "Cont
                                                                                                    "Granite (2nd option)", "Banded igneous rock", "Igneous rock (1st option)", "Igneous rock (2nd option)", "Igneous rock (4th option)", "Igneous rock (6th option)", "Igneous rock (7th option)", "Igneous rock (8th option)", "Igneous rock (1st option)",
                                                                                                   "Porphyritic rock (2nd option)", "Vitrophyre", "Quartz", "Ore" }: String[]
                                                                                                   +LithologicType(int rockCode): ctor
                                                                                                   +getRockCode(): int
                                                                                                   +getFullName(): String
                                                                                                   +getShortName(): String
```

shared.action::Bid

shared::Cell

shared::Operator

+imagePath(): String +toString(): String

+toArrayString(LithologicType[] lithRocks): String[]