```
<<extends JPanel>>
                                                                                                                                           <<implements ActionListener>>
                                                                                                                                                                                                                                              MarkeSsim
                                                                          GuiWindow
                                                                                                                                              SimulationController
                                                                                                                                                                                                                   +PATH: String = resources/
       <<extends JPanel>>
                                                    +X SIZE: int = 1024
                                                                                                                                      -DEBUG: boolean
                                                                                                                                                                                                                   -BORDER: String = "------
       GuiStatusScreen
                                                    \frac{-}{+Y} SIZE: int = 768
                                                                                                                                       <u>-guiWindow: Gui</u>Window
                                                                                                                                                                                                                  -EVENT PROBABILITY: double = 0.05
                                                    \overline{+V} SPLIT: double = 0.3
                                                                                                                                       canResume: boolean
 -buttonBegin: JButton
                                                                                                                                                                                                                   -GUI WRAPPER ENABLE: boolean = true
                                                    +TITLE: String = Investment sim
 -buttonCancel: JButton
                                                                                                                                      -simulation: Marketsim
                                                                                                                                                                                                                   -player1: Player
                                                    -leftPanel: JPanel
                                                                                                                                      -messageFrame: JFrame
                                                                                                                                                                                                                   -intervalLength: int = 7
 -performance: JTextArea
                                                     rightPanel: JPanel
                                                                                                                                       reports: Reports
                                                                                                                                                                                                                   -numberOfTurns: int = 52
                                                     -statusArea: JTextArea
                                                                                                                                                                                                                   -turn: int = 0
                                                                                                                                      +actionPerformed(event:ActionEvent): vo
                                                     -statusBar: JPanel
                                                                                                                                                                                                                   -startDate: String
 +getButton(): JButton[]
                                                                                                                                      +addBitCoin(): Void
                                                                                                                                                                                                                                                                                                           ,------
                                                    -performanceArea: JTextArea
                                                                                                                                                                                                                   -stockIndex: String
 +getPerformanceArea(): JTextAre
                                                                                                                                      +addListener(button:JButton[]): void
                                                     -statusMessage: JLabel
                                                                                                                                                                                                                   -stockNameList: String
 +getStatusArea(): JTextArea
                                                                                                                                      +addPreciousMetal(): void
                                                    -guiSetupMenu: GuiSetupMenu
                                                                                                                                                                                                                   -statusRecorder: LogManager
 +getGraphArea(): GuiGraph
                                                                                                                                      +addStock(): void
                                                    -quiAddInvestment: GuiAddInvestment
                                                                                                                                                                                                                   -optionRandomevents: boolean = false
                                                                                                                                      +advanceTurn(): void
                                                    -guiBuySell: GuiBuySell
                                                                                                                                      +buvInvestment(): void
                                                                                                                                                                                                                   +addStock(): void
                                                                                                                                                                                                                                                                                                                                <<Extends IOManager>>
                                                    -guiLoadState: GuiLoadState
                                                                                                                                      +guiUpdatePerformance(): void
                                                                                                                                                                                                                   +advanceTurn(): String[]
                                                                                                                                                                                                                                                                                                                                   LogManager
       <<extends JPanel>>
                                                    -statusScreen: GuiStatusScreen
                                                                                                                                      +guiUpdateStatus(): void
                                                                                                                                                                                                                   +buyInvestment(): void
     GuiSimulationMenu
                                                     -buttonListLeftPanel: JButton[]
                                                                                                                                                                                                                                                                                                                                                                                                                                    <<Extends IOManager>>
                                                                                                                                      +init(): void
                                                                                                                                                                                                                                                                                                                      logData: ArrayList<String> = null
                                                                                                                                                                                                                  +generateRandomEvent(eventRarity:String[]): String[]
                                                     -buttonListRightPanel: JButton[]
                                                                                                                                                                                                                                                                                                                                                                                                                                      EventManager
                                                                                                                                      +loadState(): void
                                                                                                                                                                                                                   +getIntervalLength(): int
 -buttonAddInvestment: JButton
                                                                                                                                                                                                                                                                                                            - - - → +addLine(logLine:String): void
                                                    +addInvestmentMenu(stockList:String[]): void
                                                                                                                                      +mainControl(): void
                                                                                                                                                                                                                   +getMetalIndexList(): ArrayList<String>
                                                                                                                                                                                                                                                                                                                     +getLogData(): ArrayList<String>
 -buttonBuySellInvestment: JButt
                                                                                                                                                                                                                                                                                                                                                                                                                           -FILENAME: String = "resources/Events.txt
                                                    +buySellSMenu(stockList:String[]): void
                                                                                                                                      +sellInvestment(): void
                                                                                                                                                                                                                                                                                                                                                                                              +getNumberOfTurns(): int
                                                                                                                                                                                                                                                                                                                      +load(): void
 -buttonAdvanceTurn: JButton
                                                    +finalSummary(): void
                                                                                                                                      +setupSumulation(): void
 -buttonMainMenu: JButton
                                                                                                                                                                                                                   +getPlayer(): Player
                                                                                                                                                                                                                                                                                                                     +save(): void
                                                                                                                                                                                                                                                                                                                                                                                                                           -events: ArrayList<String>
                                                    +getGuiBuySell(): GuiBuySell
                                                                                                                                      +showAddInvestment(): void
                                                                                                                                                                                                                                                                                                                     +setLogData(newData:ArrayList<String>): vo:
                                                                                                                                                                                                                   +getScores(): ArrayList<String>
+getButton(): JButton[]
                                                                                                                                                                                                                                                                                                                                                                                                                          +load(): void
                                               +getGuiLoadState(): GuiLoadState
                                                                                                                                      +showBuySellInvestment(): void
                                                                                                                                                                                                                   +getStartDate(): String
                                                                                                                                                                                                                                                                                                                                                                                                                           +randomEvent(): ArravList<String>
                                                    +getGuiSetupMenu(): GuiSetupMenu
                                                                                                                                      +showFinalSummary(): void
                                                                                                                                                                                                                  +qetStockIndex(): String
                                                    +getAddSInvestmentMenu(): GuiInvestmentMenu
                                                                                                                                      +showLoadMenu(): void
                                                                                                                                                                                                                   +getStockIndexList(): ArrayList<String>
             <<extends JPanel>>
                                                    +getLeftPanelButtons(): JButton[]
                                                                                                                                      +showMainMenu(): void
                                                                                                                                                                                                                   +getStockNameList(): String
            GuiFinalSummary
                                                    +getPerformanceArea(): JTextArea
                                                                                                                                      +showScores(): void
                                                                                                                                                                                                                   <u>+getTurn(): int</u>
                                                    +getRightPanelButtons(): JButton[]
                                                                                                                                      +showSetup(): void
                                                                                                                                                                                                                   +isSimulationComplete(): boolean
                                                                                                                                                                                                                                                                                      -----
             -init(): JPanel
                                                                                                                                      +showSimulationMenu(): void
                                                    +getStatusArea(): JTextArea
                                                                                                                                                                                                                   +isOptionRandomEvents(): boolean
                                                                                                                                      +showSplashScreen(): void
                                                    +init(): void
                                                                                                                                                                                                                   +loadGame(playerName:String): void
                                                    +loadStateMenu()
                                                                                                                                      +showStatus(): void
                                                                                                                                                                                                                   +loadSimulation(): void
             <<extends JPanel>>
                                                                                                                                      +<<static>> main(args:String[]): void
                                                    +mainMenu(): void
                                                                                                                                                                                                                   +mainMenu(): void
            | GuiSplashScreen
                                                    +setupMenu(): void
                                                                                                                                                                                                                   +mainSimulationMenu(numberOfTurns:int): void
                                                    +showScores(): void
                                                                                                                                                                                                                   +printStatus(): void
                                                                                                                                                                                                                                                                                                                                                                                                                                         IOManager
             +init(): JPanel
                                                    +simulationMenu(): void
                                                                                                                                                                                                                   +progressReport(): String
                                                                                                                                                                                                                                                                                                                                                                                                                     fileName: String = "'
                                                    +splashScreen(): void
                                                                                                                                                                                                                   +saveGame(): void
                                                                                                                                                                                                                                                                                                                                 <<Extends GameIOManager>>
                                                    +statusScreen(): void
                                                                                                                                                                                                                                                                                                                                                                                                                    +ensureDirectoryExistance(directoryName:String): void
                                                                                                                                                                                                                   +sellInvestment(): void
                                                                                                                                                                                                                                                                                                                                     ScoreManager
                                                     +updateGUIStatusScreenGraph(person:Player): void
            <<extends JPanel>>
                                                                                                                                                                                                                   +setCurrentTurn(turn:int): void
                                                                                                                                                                                                                                                                                                                                                                                                                    +extractedInfo(inputInformation:String): String
                                                     +updatePanel(panel:JPanel): void
             GuiMainMenu
                                                                                                                                                                                                                   +setDate(date:String): void
                                                                                                                                                                                                                                                                                                                                                                                                                    +getFileName(): String
                                                                                                                                                                                                                                                                                                                     +FILENAME: String = "resources/HighScores.txt"
                                                     +updateStatusMessage(message:String): void
                                                                                                                                                                                                                   +setIndex(stockIndex:String): void
                                                                                                                                                                                                                                                                                                                                                                                                                    +load(fileName:String): ArrayList<String>
                                                                                                                                                                                                                                                                                                                      -scoreData: ArrayList<String> = null
                                                                                                                            <<extends JPanel>>
           buttonLoad: JButton
                                                     <u>+addLabalTextRows(labels:JLabel[],textFields:JTextField[]</u>
                                                                                                                                                                                                                   +setIntervalLength(days:int): void
                                                                                                                                                                                                                                                                                                                                                                                                                    +save(stringList:ArrayList<String>,fileName:String): vo
                                                                                                                            GuiFinalSummary
                                                                                                                                                                                                                                                                                                          r - - - > -formatUserScore(): void
           buttonNew: JButton
                                                                     gridbag:GridBagLayout,container:Containe
                                                                                                                                                                                                                                                                                                                                                                                                                    +setFileName(aFileName:String): void
                                                                                                                                                                                                                   +setStockNameList(name:String): void
                                                                                                                                                                                                                                                                                                                     +getScoreData(): ArrayList<String>
           buttonResume: JButton
                                                                     <u>constraints:GridBagConstrains): vo</u>id
                                                                                                                     -stats: String
                                                                                                                                                                                                                   +setNumberOfTurns(turns:int): void
          -buttonQuit: JButton
                                                                                                                                                                                                                                                                                                                     +load(): void
                                                     +addLabelTextRows(labels:JLabel[],textFields:JTextField[]
                                                                                                                     -stats2: String
                                                                                                                                                                                                                   +setupNewSimulation(): void
                                                                                                                                                                         Reports
                                                                                                                                                                                                                                                                                                                     +save(): void
          -buttonScores: JButtor
                                                                     <u>gridbag:GridBagLayout,container:Containe</u>r
                                                                                                                     -stats3: String
                                                                                                                                                                                                                   +main(args:String[]): void
                                                                                                                                                                                                                                                                                                                     +setScoreData(someScoreData:ArrayList<String>): voi
           canResume: boolean
                                                                     x offset:int,y offset:int,
                                                                                                                     -stats4: String
                                                                                                                                                                -simulation: MarketSim
                                                                                                                                                                                                                   +SunVal(weekDay:double,Sun:boolean,isLeap:int,
                                                                                                                                                                comparisonIndex: Stock
          +getButton(): JButton[
                                                                      <u>constraints:GridBagConstraints): vo</u>id
                                                                                                                     -stats5: String
                                                                                                                                                                                                                         NumweekDay:int): void
                                                                                                                                                                indexSymbol: String
          +init(): JPanel
                                                                                                                     -stats6: String
                                                                                                                                                                                                                   +GetValidDate(): void
                                                                                                                                                                indexAvailable: boolean
                                                                                                                                                                                                                   +getValidInput(message:String): String
                                                                                                                     +init(): JPanel
                                                                                                                                                               +setComparisonIndex(): void
                                                                                                                                                                                                                   +getValidInt(message:String,lowerBound:int,
                                                                                                                     +getStats(): String
                                                                                                                                                               +getIndexIntervalGain(): doub
                                                                                                                                                                                                                               upperBound:int): int
                                                                                                                     +getStats2(): String
               <<extends JPanel>>
                                                                                                                                                               +getIndexNetGain(): double
                                                                                                                                                                                                                   +INDVal(weekDay:double,sat:boolean,sun:boolean)
                                                                                                                      +getStats3(): String
                 GuiScores
                                                                                                                                                                                                                  +qetValidInt(message:String): int
                                                                                                                                                               +getNetGain(): double
                                                                                                                     +getStats4(): String
                                                                                                                                                               +getNetPercentGain(): double
                                                                                                                                                                                                                   +NYVal(weekDay:double,Sat:boolean,Sun:boolean): void
                                                                                                                     +getStats5(): String
              +init(): JPanel
                                                                                                                                                                +investmentReport(): String
                                                                                                                                                                                                                   +ChrisVal(weekDay:double,Sat:boolean,Sun:boolean): void
                                                                                                                     +getStats6(): String
                                                                                                                                                                                                                  +SatVal(weekDay:double,Sat:boolean,isLeap:int,
                                                                                                                                                               +printProgressReport(): String
                                                                                                                     +outcomel(): String
                                                                        <<extends JPanel>>
                                                                                                                                                                                                                          NumweekDay:int): void
                                                                                                                                                               +printStatus(): String
                                                                                                                      +outcome2(): String
                                                                      GuiAddInvestment
                                                                                                                                                               +finalSummaryStats(): String
                                                                                                                     +outcome3(): String
                                                                                                                                                               +finalSummaryStats2(): String
      <<extends JPanel>>
                                                                                                                                                                                                                                                                                                                                                                                                                                    <<Extends IOManager>>
                                                                 -serialVersionUID: long
                                                                                                                     +outcome4(): String
                                                                                                                                                                 finalSummaryStats3(): String
          GuiBuySell
                                                                  COMBOBOX_WIDTH: int = 35
                                                                                                                     +outcome5(): String
                                                                                                                                                                                                                                                                                                                                    <<Extends GameIOManager>>
                                                                                                                                                                                                                                                                                                                                                                                                                                      GamelOManager
                                                                                                                                                               +finalSummaryStats4(): String
                                                                  -buttonAddStock: JButton
                                                                                                                     +outcome6(): String
                                                                                                                                                                                                                                                                                                                                         SaveManager
                                                                                                                                                                                                                                                                                                                                                                                                                     #player: Player
 serialVersionUID: long
                                                                                                                                                               +finalSummaryStats5(): String
                                                                  buttonAddPreciousMetal: JButton
                                                                                                                     +outcome7(): String
                                                                                                                                                               +finalSummaryStats6(): String
                                                                                                                                                                                                                                                                                                                      -startDate: String = "
                                                                                                                                                                                                                                                                                                                                                                                                                     +getPlayer(): Player
                                                                  -buttonAddBitCoin: JButton
                                                                                                                     +outcome8(): String
buttonBuyInvestment: JButton
                                                                                                                                                                                                                                                                                                                      -numOfTurns: int
                                                                                                                                                                                                                                                                                                                                                                                                                      load(fileName:String): ArrayList<String>
                                                                  -buttonDone: JButton
                                                                                                                     +outcome9(): String
-buttonSellInvestment: JButton
                                                                                                                                                                                                                                                                                                                      -turn: int
                                                                                                                                                                                                                                                                                                                                                                                                                     +save(userData:ArrayList<String>,fileName:String): void
                                                                  -selectStock: JComboBox
                                                                                                                     +outcome10(): String
                                                                                                                                                                                                                                                                                                                      -intervalLength: int
                                                                                                                                                                                                                                                                                                                                                                                                                    +setPlayer(aPlayer:Player): void
                                                                  -selectMetal: JComboBox
                                                                                                                     +outcome11(): String
-buttonAdvanceTurn: JButton
                                                                                                                                                                                                                                                                                                                      -userData: ArrayList<String> = null
                                                                  -stockList: String[]
                                                                                                                     +outcome12(): String
-selectInvestment: JComboBox
                                                                                                                                                                                                                                                                                                          '---->-stockIndex: String
                                                                  -metalList: PreciousMetal.Metal
                                                                                                                     +outcome13(): String
investmentQuantity: JTextField
                                                                                                                                                                                                                                                                                                                      -stockNameList: String
                                                                                                                     +outcome14(): String
                                                                 +getButton(): JButton[]
-investmentList: String[]
                                                                                                                                                                                                                                                                                                                      -simulation: MarketSim
                                                                                                                     +setStats(newStats:String): void
                                                                  +getProtoWidth(): String
+getButton(): JButton[]
                                                                                                                                                                                                                                                                                                                     |+loadState(playerName:String,simulation:MarketSim): voi
                                                                                                                     +setStats2(newStats2:String): voi
                                                                 +getSelectedMetal(): String
+getInvestmentQuantity(): int
                                                                                                                     +setStats3(newStats3:String): voi
                                                                                                                                                                                                                                                                                                                      +save(): void
                                                                 +getSelectedStock(): String
+getSelectedInvestment(): String
                                                                                                                                                                                                                                                                                                                     -setInvestments(): void
                                                                                                                     +setStats4(newStats4:String): voi
                                                                   init(): JPanel
+getSelectedInvestmentIndex(): ir
                                                                                                                                                                                                                                                                                                                     +setStates(): void
                                                                                                                     +setStats5(newStats5:String): voi
                                                                                                                                                                                                                                                                                                                      +updateUserData(): void
                                                                                                                     +setStats6(newStats6:String): voi
       <<extends JPanel>>
                                                                                                                                                                                                                                                 Player
       GuiSetupMenu
                                                                                                                                                                                                                                                                                                                          MarketSimUtils
                                                                                                                                                                                                                      -userName: String
 -serialVersionUID: long
                                                                                                                                                                                                                      -wittyPhrase: String
                                                                                                                                                                                                                                                                                                     -startDate: String
 -STOCK INDICES: String[]
                                                                                                                                                                                                                      -initialMoney: double = 0.0
                                                                                                                                                    Investment
                                                                                                                                                                                                                                                                                                    +<<static>> getValidInput(message:String,
                                                                                                                                                                                                                      -currentMoney: double = 0.0
                                                                                 <<extends Investment>>
                                                                                                                                                                                                                                                                                                                             validRegex:String): String
+FILE ENDING: String
                                                                                                                                     -name: String
                                                                                                                                                                                                                      -investmentList: ArrayList<Investment>
                                                                                       Stock
                                                                                                                                                                                                                                                                                                    +<<Static>> getValidInt(message:String): int
 -buttonBegin: JButton
                                                                                                                                                                                                                      -wealthHistory: ArrayList<Double>
                                                                                                                                     -quantity: int
                                                                                                                                                                                                                                                                                                    +<<static>> getValidInt(message:String,lowerbound:int,
 -buttonCancel: JButton
                                                                +MAX INDEX: int = 364
                                                                                                                                     -totalPercent: double
                                                                                                                                                                                                                      +Player(name:String,initialShekels:double,
                                                                                                                                                                                                                                                                                                                           upperbound:int): int
                                                               +DATE FORMAT: String = "yyyy-M-d"
 -userName: JTextField
                                                                                                                                     -totalChange: double
                                                                                                                                                                                                                             currentShekels:double,listStocks:Arraylist<Stock>): voi
                                                                                                                                                                                                                                                                                                    +<<static>> wrapString(stringIn:String,lengthToWrap:int): String
                                                                +CLOSING DATA COLUMN: int = 4
 -startingMoney: JTextField
                                                                                                                                     investmentType: String
                                                                -stockSymbol: String
 -startDate: JTextField
                                                                                                                                    -percent: double
                                                                                                                                                                                                                      +addBitCoin(startDate:String,intervalLength:int,
 -intervalLength: JTextField
                                                                FINVESTMENT_TYPE: String = "STOCK"
                                                                                                                                     -change: double
                                                                                                                                                                                                                                 numberOfIntervals:int,index:int): void
                                                                -stockSymbol: String
 -numberTurns: JTextField
                                                                                                                                    -priceHistory: double[]
                                                                                                                                                                                                                      +addMetal(type:PreciousMetal.Metal,startDate:String,
 -stockIndex: JComboBox
                                                                +data: Investment
                                                                                                                                      currentUnitPrice: double
                                                                                                                                                                                                                               intervalLength:int,numberOfIntervals:int,
                                                                -calculateEndDate(startdate:String,interval:int,
                                                                                                                                    +addQuantity(quantity:int): void
                                                                                                                                                                                                                               index:int): void
 randomEvents: JCheckBox
                                                                                 numberOfIntervals:int): String
                                                                                                                                                                                                                      +addOwnedInvestment(ownedInvestment:Investment): void
                                                                                                                                    +calculatePerformante(index:int): void
+getButton(): JButton[]
                                                                -dateBetween(startdate:String,enddate:String,
                                                                                                                                                                                                                      +addStock(stockSymbol:String,startDate:String,
                                                                                                                                    +getChange(): double
+getChosenFilename(): String
                                                                           currentdate:String): boolean
                                                                                                                                    +getCurrentUnitPrice(): double
                                                                                                                                                                                                                               intervalLength:int,numberOfIntervals:int): void
+getFilenames(): String[]
                                                                -daysBetween(date1:Date,date2:Date): int
                                                                                                                                    +getInvestmentType(): String
                                                                                                                                                                                                                      +buyInvestment(index:int,quantity:int): int
+getIntervalLength(): String
                                                                -fillData(array:String[]): String[]
                                                                                                                                    +getName(): String
                                                                                                                                                                                                                 +getCurrentMoney(): double
+getNumberTurns(): String
                                                                +getCopy(original:Stock,startDate:String,
                                                                                                                                    +getPercent(): double
                                                                                                                                                                                                                      +getInitialMoney(): double
 +getOptionRandomEvents(): boolear
                                                                       interval:int,numberOfIntervals:int): Investment
                                                                                                                                    +getPrice(): double
                                                                                                                                                                                                                      +getInvestmentList(): String[]
+getStartDate(): String
                                                                +getDateCode(startDate:String,endDate:String): String
                                                                                                                                    +getPriceHistory(): double[]
                                                                                                                                                                                                                      +getInvestmentListArray(): ArrayList<Investment>
 +getStartingMoney(): String
                                                                +getSymbol(): String
                                                                                                                                    +getPriceHistoryLength(): int
                                                                                                                                                                                                                     +getInvestmentListReport(): String
+getStockIndex(): String
                                                                -invertArray(array:String[]): Strgin[]
                                                                                                                                                                                                                      +getNetWorth(): double
                                                                                                                                    +getQuantity(): int
+getUserName(): String
                                                                +isValidDate(startdate:String,interval:int,
                                                                                                                                    +getTotalChange(): double
                                                                                                                                                                                                                      +getUserName(): string
                                                                            numberOfIntervals:int): boolean
                                                                                                                                    +getTotalPercent(): double
                                                                                                                                                                                                                      +getWittyPhrase(): String
                                                                +scrapePrice(symbol:String,startdate:String,
                                                                                                                                    +getValue(): double
                                                                                                                                                                                                                      +getWealthHistory(index:int): double
                                                                            interval:int,numberOfIntervals:int): double
                                                                                                                                     +removeQuantity(quantity:int): void
                                                                                                                                                                                                                      +isInvestmentOnList(name:String): boolean
                                                                                                                                     +setCurrentUnitPrice(price:double): void
                                                                                                                                                                                                                      +sellInvestment(index:int,quantity:int): int
                                                                                                                                     +setInvestmentType(): String
                                                                                                                                                                                                                      +setCurrentMoney(moneyValue:double): void
                                                                                                                                     +setName(name:String): void
                                                                                                                                                                                                                      +setInitialMoney(moneyValue:double): void
         <<extends JPanel>>
                                                                                                                                     +setPriceHistory(price:double[]): void
                                                                                                                                                                                                                      +setInvestmentList(listInvestments:ArrayList<Investment>): void
          GuiLoadState
                                                                                                                                     +setUserName(name:String): void
                                                                                                                                     +setQuantity(quantity:int): void
                                                                                                                                                                                                                      +setWittyPhrase(phrase:String): void
    -PATH: String = "./saves";
    +FILE ENDING: String = ".txt
                                                                                                                                     -updatePrice(index:int): void
                                                                                                                                                                                                                      +updatePortfolio(index:int): int
    -buttonLoad: JButton
                                                                                                                                                                                                                      +percentMoneyChange(amount:double): void
                                                                                                                                                                                                                      +percentStockChange(percentStockChange:doubler): void
    -buttonCancel: JButton
     -filename: JComboBox<String>
                                                                                                                                                                                                                      +absoluteMoneyChange(amount:double): void
                                                                                                                                                                                                                      +getButton(): JButton[]
    |+getChosenFilename(): String
    -getFilenames(): String[]
    +init(): JPanel
                                                                                <<extends Investment>>
                                                                                                                                                <<extends Investment>>
                                                                                   PreciousMetal
                                                                                                                                                       BitCoin
                                                                    +Metal: enum
                                                                                                                                                                                                                                         <<implements Runnable>>
                                                                                                                                                                                                                                                                                               <<extends Exception>>
                                                                    +FILENAME: String = resources/londonfixes.csv
                                                                                                                                    +FILENAME: String = resources/bitcoin_prices.cs
                                                                                                                                    +DATE FORMAT: String = "yyyy-M-d"
                                                                                                                                                                                                                                               SoundLayer
                                                                                                                                                                                                                                                                                                 SoundException
                                                                    +DATE FORMAT: String = "yyyy-M-d"
                                                                   +INVESTMENT TYPE: String = "METAL"
                                                                                                                                    +INVESTMENT TYPE: String = "BITCOIN"
                                                                                                                                                                                                                             -audioFileName: String
                                                                                                                                                                                                                                                                                        exception: Throwable
                                                                     -type: Metal
                                                                                                                                    -calculateEndDate(startdate:String,interval:int
                                                                                                                                                                                                                              repeat: boolean = false
                                                                                                                                                                                                                                                                                        +getException(): Throwable
                                                                     -calculateEndDate(startdate:String.interval:in
                                                                                                                                                     numberOfIntervals:int): Strin
                                                                                                                                                                                                                             -soundtrack: AdvancedPlayer
                                                                                                                                                                                                                                                                                        +printStackTrace(): void
                                                                                     numberOfIntervals:int): Strin
                                                                                                                                    -dateBetween(startdate:String,enddate:String,
                                                                                                                                                                                                                             -exceptions: ArrayList<String>
                                                                                                                                                                                                                                                                                        +printStackTrace(ps:PrintStream): vo:
                                                                     dateBetween(startdate:String.enddate:String.
                                                                                                                                                currentdate:String): boolean
                                                                                                                                                                                                                              soundThread: Thread
                                                                                                                                    -fillData(array:String[]): String[]
                                                                                currentdate:String): boolean
                                                                                                                                                                                                                             -setSountTrack(audioFile:String): void
                                                                     fillData(array:String[]): String[]
                                                                                                                                    +isValidDate(startdate:String,interval:int,
                                                                                                                                                                                                                             +setAudioFileName(setAudioFileName:audioFile): voi
                                                                    +getType(): Metal
                                                                                                                                                numberOfIntervals:int): boolean
                                                                                                                                                                                                                             -playSound(): void
                                                                    +isValidDate(startdate:String,interval:int,
                                                                                                                                     -loadPrice(startdate:String,interval:int,
                                                                                                                                                                                                                             +run(): void
                                                                                                                                              numberOfIntervals:int): double[]
                                                                                 numberOfIntervals:int): boolean
                                                                                                                                                                                                                             +playLoop(): void
                                                                     +loadPrice(startdate:String,interval:int,
                                                                                                                                                                                                                             +playOnce(): void
                                                                              numberOfIntervals:int): double[]
                                                                     +setType(type:Metal): void
```

-status: JTextArea

#graph: GuiGraph

+init(): JPanel

+init(): JPanel

buttonAddInvestment

-buttonDone: JButton

+init(): JPanel

-PATH: String

-filename: JComboBox

+init(): JPanel

<<extendJPanel>>

GuiGraph

GRAPH STROKE: Stroke

·listsize: int

full: boolean

-padding: int

currentsize: int

labelpadding: int

lineColor: Color

-pointColor: Color

-gridColor: Color

numberYDivisions: int

+format: DecimalFormat

-getMaxScore(): double -getMinScore(): double

+getScores(): double[]

+init(person:Player): void

+getNextValue(person:Player): double

+<<static>> createAndShowGui(scores:double[]): voi

#paintComponent(g:Graphics): void +setScores(scores:double[]): void +updateGraph(peron:Player): void

-pointWidth: int

-scores: double[]

+reset(): void

index: int