Struct «Mldata» {element of idata} Package::pmktdata {principal package object} +name:char +dtype:char idata:list +d1:xts -imetadata:data.frame +w1:xts -groupsordered:char +meta:list{ -dataprovider:char -curmktidx:int splits:xts dividends:xts -mode:char -dseq=:POSIXct interdaytimezone:char intradaytimezone:char -enddate:POSIXct n idata rollon:char -cdate:POSIXct volccount:int -histd1:int gluedcontracts:list{ -histh1:int cfmonth:char --constr c2month:char +instrlistdatacsv(csvfile:char,..):Mldata c3month:char +instrlistdata(instrvec:char,..):Mldata cfexpir:char -getters setters datasub:char +getCinstrument(o:Mldata):char +getInstrumentLabel(o:Mldata:iname:char):char +intraday:list +getSortedinstruments(o:Mldata):vector {element:list{ +setInstrumentPosition(o:Mldata,pos:char):void imetadata -setSpecificInstrumentPosition(o:Mldata,idnam:char):void +{get/set}Mode(o:Mldata,..) Struct +{get/set}Cdate(o:Mldata,..) {imetadata data frame} +{get/set}Groups(o:Mldata,..) IDNAM:char +getCdatedata(o:Mldata,iname:char,tfvalue:char):Xts TKR:char +getcd1(o:Mldata):Xts TYP:char +getcw1(o:Mldata):Xts LBL:char +setInterdayTZ(o:Mldata,tz:char) grp:char +getInterdayTZ(o:Mldata) --load data func +iniDataDld(o:Mldata,sdate:POSIXct) «MldataDtn» +updDataDld(o:Mldata):void {impl for DTN data} +fetchNextDay(o:Mldata,n:int) +loadDataContractsDTN(o:Mldata,rollon:char,..) +fetchNextWeek(o:Mldata) +updDataContractsDTN(o:Mldata,rollon:char,..) +iniDataContracts(o:Mldata,rollon:char,..) +loadUp2dateContracts(o:Mldata,..) +updDataContracts(o:Mldata,..) --misc funcs +insertGroup(o:Mldata,grp:char,pos:int):void +removeDatatail(o:Mldata,rmd:bool,..) +addMarketdata(o:Mldata,name:char,..) +rmMarketdata(o:Mldata,name:char,..) +printIdatMeta(o:Mldat,name:char,..) +getIdatMetaRolls(o:Mldata,name:char):list +getIdatMetaFrontcontract(o:Mldata,name:char,ctime:POSIXct):list +getIdatMetaRollcrit(o:Mldata,name:char):char +iniDownloadDTN(o:ContractSEq,lstqtime:POSIXct)

«ContractSeqList» Package::pmktdata {helper object for list of contract seqs} -csl:list -topstoredir:char -loggername:char --constr +nreadCSL(ivec:vector,topstoredir:char,freq:in..):ContractSeqList +readCSL(topstoredir:char):ContractSeqList -getters setters +getInstrument(o:ContractSeqList):vector +setLogger(o:contractSeqList):void +{get/set}CS(o:ContractSEqList,cs:ContractSeq) -data mgmt func +updEOD(o:ContractSeqList,ctime:POSIXct,updMeta:bool,persist:bool) +updIntra(o:ContractSeqList,ctime:POSIXct,interval:int,mofirst:bool,..) +storecsl(o:ContractSeqList) +storeIntracsI(o:ContractSeqList,interval:int) --misc funcs +lstlig(o:ContractSegList.ctime:POSIXct) +lstcur(o:ContractSeqList,ctime:POSIXct +show(o:ContractSeal ist)

«ContrcactSeqDtn»

Package::pmktdata

{implementation for DTN data}

+iniDownloadIntraDTN(o:ContractSEq,Istgtime:POSIXct,interval:int,...)

+updateEODDTN(o:ContractSEq,scontract:char,ctime:POSIXct)

+updateIntraDTN(o:ContractSEq,Istqtime:POSIXct,interval:int,..)

{futures contracts} +instName:char +tickerPref:char data +contSuff:char +yrContracts:int +topstoredir:char +offsetd1fixed:int +datasrc:char +lastDataDaily:POSIXct +cslogger:char +contrseq:data.frame +contrefdata:list +data:list +intrdconf:list +intrdata:list +tkdata:list +rollrule:list --constr +crBareContractSeq(name:char,..):ContractSeq +loadseq(rdatfile:char):ContractSeq +readcs(name:char,topstoredir:char):ContractSeq +nreadcs(name:char,topstoredir:char,..):ContractSeq +csfromcfg(fname:char, cfgdir:char):ContractSeg --aetters setters +getInstrumentName(o:ContractSeq):char +getTickerPref(o:ContractSeq):char +getLoggername(o:ContractSeq):char +{get/set}Topstoredir(o:ContractSeq,..) +setRollrule(o:ContractSeq:value:list) +setRegularRollRule(o:ContractSeq,rollprd:int,fmvolpct:float) +resetLogger(o:ConractSeq,level:char) +getD1offset(o:ConractSeq):int +{get/set}ContractSequence(o:ContractSeq,..) +getContract(o:ContractSeq:month:char):Contract +getUnexpiredContract(o:ContractSeq,ctime:POSIXct,n:int):char +getUnexpiredExpectedExpiry(o:ContractSeq,ctime:POSIXct,n:int) +getIntraIntervalDataIndex(o:ContractSeq,interval:int):int +getIntraIntervalData(o:ContractSeq,interval:int):xts +getLastQuoteDatePosix(o:ContractSeg) +setRefContIntradaySerie(o:ContractSeq,rollon:char) +getRefContserie(o:ContractSeq,freq:int) +getGluedsequence(o:ContractSeq:stime:POSIXct,etime:POSIXct, +getGluedserie(o:ContractSeg:stime:POSIXct.etime:POSIXct...):xts --misc funcs +dtnConf(env:char) +mkContractChain(yrstart:char,yrend:char,..):vector +cshelp(o:ContractSeq) +show(o:ContractSeq) +showcur(o:ContractSeg,ctime:POSIXct) -- check funcs +printLiquidity(o:ContractSeq,ctime:POSIXct,n:int) +chkprintEODroll(o:ContractSeg.ctime:POSIXct.n:int) +chkMeta(o:ContractSEq) +chkData(o:ContractSEq) +sanityCheckMeta(o:ContractSeq) -- config mgmt funcs +findRollonvol(o:ContractSeq,ctime:POSIXct,..) +fillExpiries(o:ContractSeq,kkeys:char) -- data mgmt funcs +addFutureContracts(o:ContractSeq,n:int) +updateMeta(o:ContractSeq,ctime:POSIXct,persist:bool) +updateRollonvol(o:ContractSeq,ctime:POSIXct) +updateDataExpiries(o:ContractSeq) +fixMetafromcsv(o:ContractSeq,persist:bool) +iniDownload(o:ContractSeq,lstqtime:POSIXct,..) +iniDownloadIntra(o:ContractSeq,lstqtime:POSIXct,..) +loadIntraday(o:ContractSeq,interval:int,..) +updateEOD(o:ContractSeq,scontract:char,ctime:POSIXct,..) +updateIntra(o:ContractSeq,scontract:char,lstqtime:POSIXct,..)

«ContractSeq»

Package::pmktdata

Struct {element of data} +ticker:char +month:char +expiry:char +d1start:char +d1end:char

intrdata

{element of intrdata}

+month:char

+idat:list{

+dtstart:char

+dtstop:char

Struct v.2 {element of intrdconf}

+intradayfreq:vector(numeri +outcrytimezone:char

+tick size:double

+tick_price:double

+toPrdIntra(o:ContractSeq,sinerval:int,tointerval:int) +allPrdIntra(o:ContractSeg_contracts:vector)

+bd1:xts

Struct +ticker:char

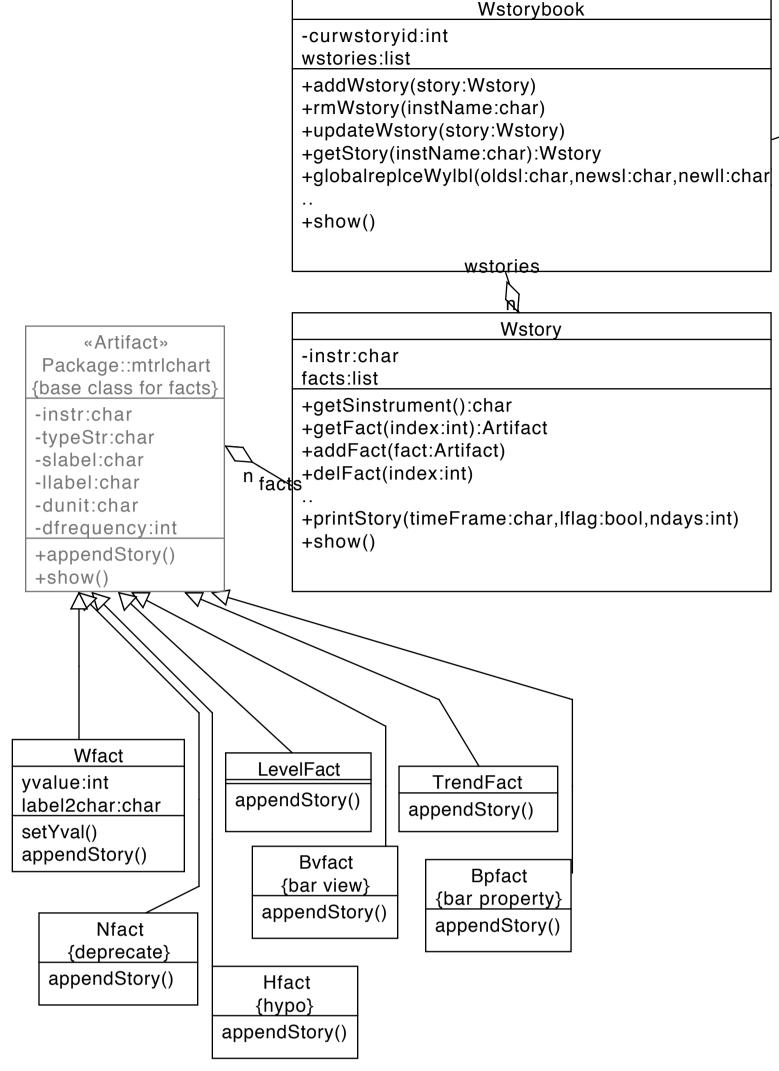
+freq:char

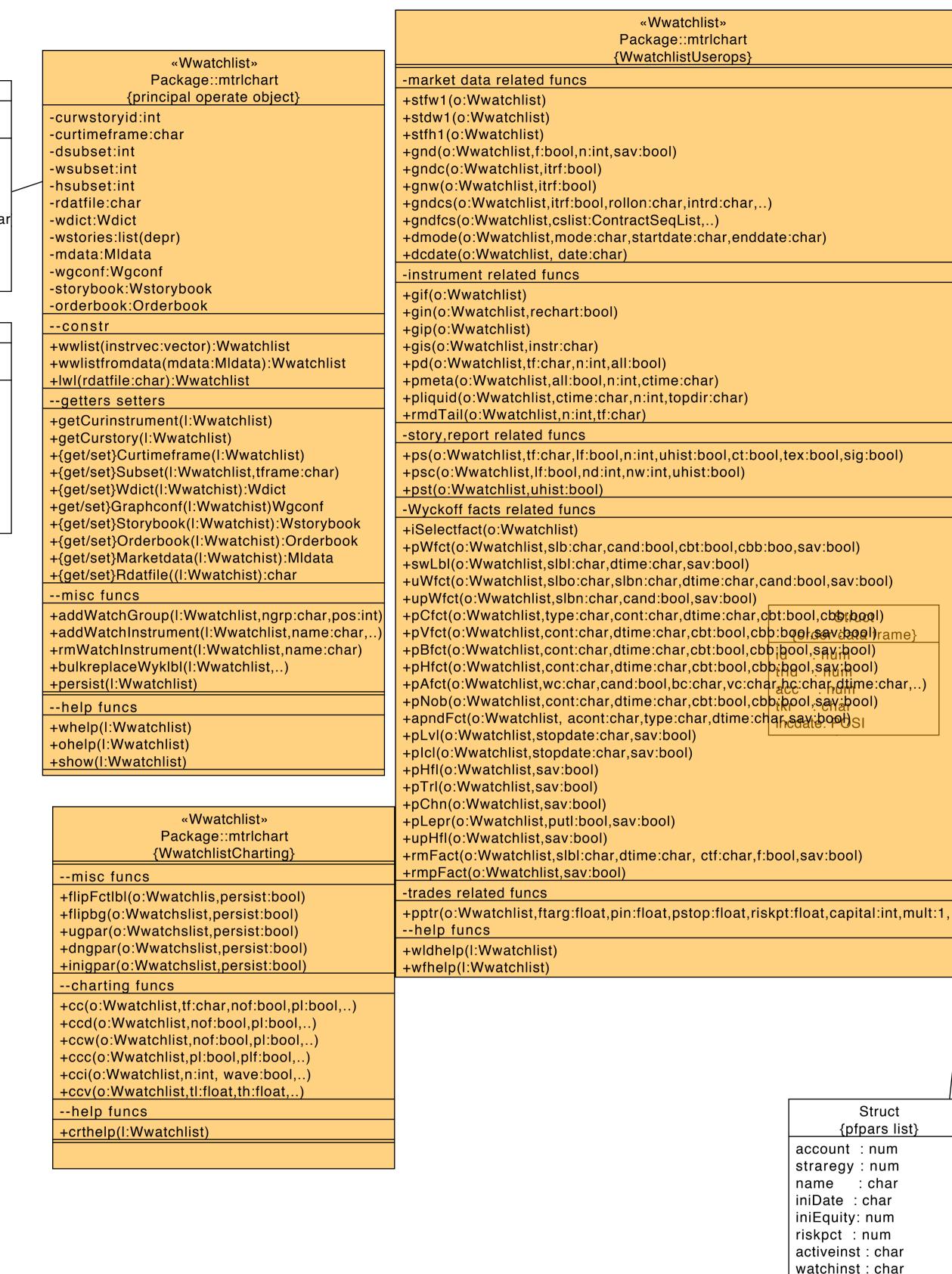
+xdat:xts

intrd/con

+daydoublevolume:bool

+imnt_currency:char





«Wwatchlist» Package::mtrlchart {Orderops} --trade analytics funcs +ck4tr(o:Wwatchlist,clb:bool,cbs:bool,arby:bool,pent:float,pstop:float,ft:float,mt:float,...) +ptr(o:Wwatchlist,sdate:char,n:int,iall:bool,otn:bool,ct:bool) +portf(o:Wwatchlist,sdate:char,tf:char) +pctr(o:Wwatchlist) +calcPortfolioNav(o:Wwatchlist.sdate:char.tf:char) --trade market data processing funcs +cfotr(o:Wwatchlist, sav:bool) +gnbfo(o:Wwatchlist,tf:char,single:bool,sav:bool) +lpd(o:Wwatchlist,tf:char,dtype:char,gfirst:bool,wt:int,mwt:float,osunix:bool) --order management funcs +rmatr(o:Wwatchlist,tid:int,sav:bool) +cantr(o:Wwatchlist,tid:int,sav:bool) +optr(o:Wwatchlist,cmnt:char,qty:int,mkto:bool,plstop:bool,verbose:bool,sav:bool) +adjsoptr(o:Wwatchlist,tid:int,sav:bool) +addOrder(o:Wwatchlist,kind:char,tid:int,qty:int,pr:float,sav:bool) +rmotr(o:Wwatchlist,oid:int,sav:bool) +canotr(o:Wwatchlist,oid:in,sav:bool) +astoptr(o:Wwatchlist,tid:int,qty:int,pr:float,sav:bool) +atartr(o:Wwatchlist,tid:int,qty:int,pr:float,sav:bool) +aaaotr(o:Wwatchlist,tid:int,type:char,qty:int,pr:float,sav:bool) +amotr(o:Wwatchlist,tid:int,qty:int,sav:bool) +alotr(o:Wwatchlist,tid:int,qty:int,pr:float,sav:bool) +moprtr(o:Wwatchlist,oid:int,pr:float,sav:bool) +moqtytr(o:Wwatchlist,oid:int,qty:int,sav:bool) +fixotr(o:Wwatchlist,oid:int,oncl:bool,sav:bool)

«Orderbook»

Package::mtrlchart

{functional area object

-pfpars:list

-oidcur:int

-tidcur:int

-tidseed:int

-odf:data.frame

-tdf:data.frame

--getters setters

--misc funcs

--Order operations

--trade operations

--biz functions

--help funcs

+crthelp(I:Wwatchlist)

+initOrderbook(pparams:list,instrvec:vec,typevec:vec,...)

+initPorfolioParams(accid:int,stratid:int,pname:char,..):list

+getTradesSubset(o:Orderbook, ticker:char, sdate:char,edate:char,crit:char)

+updOrdersTradePosition(o:Orderbook,tid:int,chgdate:char,verbose:bool)

+updTradeOrder(o:Orderbook,oid:int, chgdate:char,param:char,value:float) +procOrderFills(o:Orderbook,ticker:char,cdate:char,data:xts,verbose:bool)

+calcInstrumentPosition(o:Orderbook,ticker:char, sdate:char,edate:char)

+eqtyAlloc4instrument(o:Orderbook, ticker:char,sdate:char,edate:char)

+addTradeOrder(o:Orderbook,tid:int,incdate:char,mtype:char,qty:int,price:float)

+printTrades(o:Orderbook,ticker:char,sdate:char,edate:char,mmprice:float,n:int,..)

+calcInstrumentPnI(o:Orderbook, ticker:char,mmprice:float,sdate:char,edate:char,ptype:char)

+blotterPnl(o:Orderbook,ticker:char,xdata:xts,sdate:char,edate:char,init:bool,chart:bool)

+printlnstrGlpos(o:Orderbook,ticker:char,sdate:char,mmprice:float,edate:char)

+getOrdersSubset(o:Orderbook,ticker:char, sdate:char,edate:char,trcit:char,ocrit:char)

+getInstrmetinfo(o:Orderbook,ticker:char,mtype:char)

+updTradeRec(o:Orderbook,trade:Trade,cascade:bool)

+initOrderbookcsv(pparams:list,csvfile:char)

+getNextIdentity(o:Orderbook,ivar:char):int

+storeNextIdentity(o:Orderbook,ivar:char)

+{get/set}ActiveInstruments(o:Orderbook)

+{get/set}WatchInstruments(o:Orderbook)

+insOrderRec(o:Orderbook,order:Order)

+updOrderRec(o:Orderbook,order:Order)

+getOrderFromRec(o:Orderbook,id:int)

+insTradeRec(o:Orderbook,trade:Trade)

+getTradeFromRec(o:Orderbook,tid:int)

+cancelTrade(o:Orderbook,tid:int,chgdate:char)

+calcPortfolioEquity(o:Orderbook,sdate:char,edate:char)

+calcPortfolioCash(o:Orderbook, sdate:char,edate:char)

+rmOrderRec(o:Orderbook,id:int)

+getOrderRec(o:Orderbook,id:int)

+eraseOrder(o:Orderbook,oid:int)

+rmTradeRec(o:Orderbook,tid:int)

+getTradeRec(o:Orderbook,tid:int)

+eraseTrade(o:Orderbook,tid:int)

+initOrderbookBlotter(o:Orderbook,tickers:vec)

+getTemtrade(o:Orderbook):Trade

-oidseed:int

-ometadat:data.frame

-Tmptrade:Trade

-tid:int -stratid:int -accid:int -itkr:char -inceptDate:POSI -tstatus:char -tqty:int -entry:float stop:float -ftarget:float ·mtarget:float -comment:char -torders :list -constr +mkDummyTrade(ticker:char, incdate:POSI,entry:float,stop:flo +mkTrade(strat:int,acc:int,tkr:char,incDate:POSI, qty:int, entry +crTradeFromrec(tlist:list) -getters setters +{get/set}Tid(o:Trade,value:int) +{get/set}Stratid(o:Trade,value:int) +{get/set}Taccount(o:Trade,value:char) +{get/set}Tticker(o:Trade,value:char) +{get/set}Tstatus(o:Trade,value:char) +{get/set}TincDate(o:Trade,value:POSI) +{get/set}Tqty(o:Trade,value:int) +{get/set}Entry(o:Trade,value:float) +{get/set}Stop(o:Trade,value:float) +{get/set}Ftarget(o:Trade,value:float) Tmptrade +{get/set}Mtarget(o:Trade,value:float) +{get/set}Comment(o:Trade,value:char) +{get/set}Torders(o:Trade,value:list) +{get/set}TradeOrder(o:Trade,value:Order) +getOrdersattachedIds(o:Trade) -- operate methods +removeTradeOrder(o:Trade,order:Order) +updTradeStatus(o:Trade) +updOrdersizeOpenposition(o:Trade,chgdate:POSI) +getFtargetRR(o:Trade) +getMtargetRR(o:Trade) +hasOrdersattached(o:Trade) list of {Order} +getTradePosition(o:Trade) +getTradeMtm(o:Trade,mmprice:float)

+getTradeMtmvalue(o:Trade, mmprice:float, contrmult:int)

+getTradeLockedCash(o:Trade, mmprice:float, marginpct:int)

+getTradeUpnI(o:Trade, mmprice:float, contrmult:int)

+getTradeRpnl(o:Trade, mmprice:float, contrmult:int)

+attachOrdersFromrecset(o:Trade, rset:data.frame)

+getTradeAvrgPrice(o:Trade, crit:char)

+isTradeProtected(o:Trade, crit:int)

+strTradeOrphanedOrders(o:Trade)

+getTradeWorkingOrders(o:Trade)

+getTradeOrdersStatus(o:Trade)

+initTradedataframe(o:Trade)

+setOrdersTrid(o:Trade)

+findTradeOrphanedOrders(o:Trade)

Trade

package:mMtrlchart

-itkr:char inceptDate:POSI -type:char -status:char changeDate:POSI -qty:int -rprice:float ·fprice:float -constr +mkLimitOrder(tradeid:int,acc:int,tkr:char,incDate:POSI,qty:in +mMarketOrder(tradeid:int,acc:int,tkr:char,incDate:POSI,gty:i +crOrderFromrec(olist:list) -getters setters +{get/set}Id(o:Order,value:int) +{get/set}Trid(o:Order,value:int) +{get/set}Type(o:Order,value:char) +{get/set}Status(o:Order,value:char) +getTicker(o:Order) +getOaccount(o:Order) +getIncDate(o:Order,chr:bool) +{get/set}ChgDate(o:Order,value:POSI) +{get/set}Qty(o:Order,value:int) +{get/set}Regprice(o:Order,value:float) +{get/set}Fillprice(o:Order,value:float) +getMtm(o:Order,mmprice:float) +getNotional(o:Order) --operate methods +cancelOrder(o:Order,chdate:POSI) +fillOrder(o:Order,chdate:POSI,fillprice:float) +checkFillOrder(o:Order, data:xts,cdate:POSI,slippage:float) +initOrderdataframe(o:Order):data_frame

package:mMtrlchart

-id:int

-trid:int

-accid:int

Struct {trade data frame} tid : num ometadata strat : num acc : num Struct tkr : char {book meta data frame} incdate: POSI IDNAM : chr status : char TYP : chr tqty : num CURR : chr entry: num TKSIZ : num stop : num TKVAL : num ftarget: num +check4trade(o:Orderbook,instr:char,incdate:char,pent:float,pstop:float,ftarget:float,mtarget:float UFEE : num mtarget: num +openTrade(o:Orderbook,mtype:char,incdate:char,qty:int,entry:float,comment:char,plstop:bool) **UINIMARG:** num comment: chr TKSLIPP: num RWGHT: num

Struct {order data frame}

id : num trid : num acc : num tkr : char

incdate: POSI