## # unsigned long registerPosition paceval\_cRegisteredObject (paceval\_cCleanupHandler \*handle\_CleanupHandler\_in) + ~paceval\_cRegisteredObject() · void setRegisterPosition (unsigned long registerPosition\_in) unsigned long getRegister Position() paceval\_cGraph + paceval\_cGraph(paceval cCleanupHandler \*handle \_CleanupHandler\_in, PACEVAL \_HANDLE handle\_pacevalComputation\_in) void initializeData() + ~paceval\_cGraph() unsigned long addAtomicGraph Node(paceval\_cBaseAtomicGraphNode paceval\_cListOfPointer paceval\_cScanner \*handle\_cBaseAtomicGraphNode paceval\_cListOfVariables \_in, paceval\_eListOfPointerTypes + paceval\_cListOfPointer ePointerType\_in, bool \*success\_out) paceval\_cScanner(paceval (paceval\_cCleanupHandler paceval\_cBaseAtomicGraph \_cCleanupHandler \*handle paceval\_cListOfVariables \*handle\_CleanupHandler\_in) Node \* getAtomicGraphNode \_CleanupHandler\_in) (paceval\_cCleanupHandler ⊦ void initializeData (unsigned long position\_in) \*handle\_CleanupHandler\_in) void initializeData (unsigned long proposedSize\_in) paceval\_sErrorInformation long sizeOf() (const char \*functionString\_in) void initializeData + ~paceval\_cListOfPointer() + paceval\_eErrorTypes (unsigned long proposedSize\_in) + long getMaximumField() + ~paceval\_cScanner() error\_eErrorType + bool doAddPointer(void + ~paceval\_cListOfVariables() + long getNumberOfPosition void identifyMatch \*handle\_Pointer\_in, paceval paceval\_eOperatorTypes #handle\_CleanupHandler (paceval\_eMathematicalCharacter Levels() ► bool doAddVariable \_eListOfPointerTypes ePointerType error\_eOperator Types eMathematicalCharacterType\_in) (const char \*varable\_in) long getMaxToDoLevelMultithread \_in, unsigned long \*pointerPosition\_out) long error\_ePosition void setMainPositionOfScanner Position() void addVariablesAtOnce paceval\_eListOfPointerTypes (long mainPositionOfScanner\_in) void resetMaxToDoLevelMultithread (const char \*variables getPointerType(unsigned \_in, unsigned long numberOfVariables\_in) + long getMainPositionOfScanner() Position() long position\_in) unsigned long getNumberOf paceval\_eMathematicalCharacter long lockAndGetToDoLevel + void \* getPointer(unsigned Variables() MultithreadPosition(unsigned Types getLookAheadMathematicalCharacter long position\_in) long stackNumber\_in, unsigned Type() long identifyVariablePositionfrom bool removePointer long idSingleCalculationToDo String(const char \*variable\_in) · const char \* getScannerString (unsigned long position\_in) \_in, unsigned long \*lastToDoLevelMultithread (long \*lengthOfScannerString\_out) + unsigned long sizeOf() Position\_in, unsigned long \*startSpecificAtNode \_in, unsigned long \*endSpecificAtNode\_in) bool unlockToDoLevelMultithread Position(unsigned long stackNumber \_in, unsigned long lockedLevelMultithread Position\_in, unsigned long idSingleCalculationToDo\_in) bool identifyGraphCaching Opportunities(paceval\_cBaseAtomic GraphNode \*handle\_cAtomicGraphNode \_in, unsigned long handle\_handle \_AtomicGraphPosition\_in) #listOfVariables #handle\_Graph #handle\_Scanner #listOfpacevalObjects #lastErrorInformation paceval\_cCleanupHandler # paceval\_callbackStatusType \* handle\_CallbackStatus # paceval\_eStatusTypes currentStatus # unsigned long length paceval\_cSyntacticAnalysis \_functionString # long currentAtomicGraphNode # bool lastError\_isError + paceval\_cSyntacticAnalysis # unsigned long numberOfObjects (paceval cCleanupHandler # unsigned long maxNumberOf \*handle CleanupHandler\_in) Objects void initializeData paceval\_cCleanupHandler (PACEVAL\_HANDLE handle (paceval\_callbackStatusType \_pacevalComputation\_in, \*paceval\_callbackStatus\_in) const char \*functionString bool initializeDataCleanup in, paceval cListOfVariables Handler() \*listOfVariables\_in) + ~paceval\_cCleanupHandler() + ~paceval cSyntacticAnalysis() void setCurrentStatus + paceval\_cGraph \* getGraph() (paceval\_eStatusTypes + paceval\_cListOfVariables currentStatus\_in, int \* getVarList() percentageDone\_in) # void doAnalyzeTerms() paceval\_eStatusTypes # void setOperationPlaceholders getCurrentStatus(int Positions(long \*position \*percentageDone\_out) \_value1\_in, long \*position void setPercentageDone \_value2\_in, long \*position (int percentageDone\_in) \_result\_in) int getPercentageDone() # void addElementaryArithmetic void setLengthFunctionString OrPowerSign(const char \*operator (unsigned long length\_functionString\_in) \_in, long position\_in) unsigned long getLengthFunction # void addFacultationSign String() (long position\_in) bool registerObject # void addFunction(const (unsigned long \*registerPosition char \*functionAsOperator \_out, void \*handle\_Pointer \_in, long position\_in) \_in, paceval\_eListOfPointerTypes # void doSummation() ePointerType\_in) # void doTerm() bool unregisterObject # void doPowerCharacter() (unsigned long registerPosition \_in, void \*handle\_Pointer\_in, # void doSingleCharacter() paceval\_eListOfPointerTypes # void addValue(long ePointerType\_in) position\_in, const + void cleanupAllpacevalObjects() char \*valueAsOperator\_in) + bool resetComputationError() # void addConstant(long position\_in, const char + void setLastError(bool \*constantAsOperator\_in) lastError\_isError\_in, paceval\_eErrorTypes lastError # void addVariable(long \_eErrorType\_in, paceval\_eOperatorTypes position\_in, long variable lastError\_eOperator\_in, long lastError Position\_in) \_ePosition\_in) bool getLastError(char \*lastError strOperator out, paceval\_eErrorTypes \*lastError\_eErrorType\_out, paceval\_eOperatorTypes \*lastError \_eOperator\_out, long \*lastError

ePosition\_out)

paceval\_cRegisteredObject