Package ‘codetools’

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checkUsage Check R Code for Possible Problems

Description

Check R code for possible problems.
checkUsage

Usage

checkUsage(fun, name = "<anonymous>", report = cat, all = FALSE,
suppressLocal = FALSE, suppressParamAssigns = !all,
suppressParamUnused = !all, suppressFundefMismatch = FALSE,
suppressLocalUnused = FALSE, suppressNoLocalFun = !all,
skipWith = FALSE, suppressUndefined = dfltSupressUndefined,
suppressPartialMatchArgs = TRUE)
checkUsageEnv(env, ...)
checkUsagePackage(pack, ...)

Arguments

fun
closure.
name
character; name of closure.
env
environment containing closures to check.
pack
character naming package to check.
...
options to be passed to checkUsage.
report
function to use to report possible problems.
all
logical; report all possible problems if TRUE.
suppressLocal
suppress all local variable warnings.
suppressParamAssigns
suppress warnings about assignments to formal parameters.
suppressParamUnused
suppress warnings about unused formal parameters.
suppressFundefMismatch
suppress warnings about multiple local function definitions with different formal argument lists
suppressLocalUnused
suppress warnings about unused local variables
suppressNoLocalFun
suppress warnings about using local variables as functions with no apparent local function definition
skipWith
logical; if true, do no examine code portion of with expressions.
suppressUndefined
suppress warnings about undefined global functions and variables.
suppressPartialMatchArgs
suppress warnings about partial argument matching

Details

checkUsage checks a single R closure. Options control which possible problems to report. The default settings are moderately verbose. A first pass might use suppressLocal=TRUE to suppress all information related to local variable usage. The suppressXYZ values can either be scalar logicals or character vectors; then they are character vectors they only suppress problem reports for the variables with names in the vector.
checkUsageEnv and checkUsagePackage are convenience functions that apply checkUsage to all closures in an environment or a package. checkUsagePackage requires that the package be loaded. If the package has a name space then the internal name space frame is checked.

Author(s)

Luke Tierney

Examples

checkUsage(checkUsage)
checkUsagePackage("codetools", all=TRUE)
## Not run: checkUsagePackage("base", suppressLocal=TRUE)

Description

These functions provide some tools for analysing R code. Mainly intended to support the other tools in this package and byte code compilation.

Usage

collectLocals(e, collect)
collectUsage(fun, name = "<anonymous>", ...)
constantFold(e, env = NULL, fail = NULL)
findFuncLocals(formals, body)
findLocals(e, envir = .BaseEnv)
findLocalsList(elist, envir = .BaseEnv)
flattenAssignment(e)
getAssignedVar(e)
isConstantValue(v, w)
makeCodeWalker(..., handler, call, leaf)
makeLocalsCollector(..., leaf, handler, isLocal, exit, collect)
makeUsageCollector(fun, ..., name, enterLocal, enterGlobal, enterInternal,
            startCollectLocals, finishCollectLocals, warn, signal)
walkCode(e, w = makeCodeWalker())

Arguments

e R expression.
elist list of R expressions.
v R object.
fun closure.
formals formal arguments of a closure.
findGlobals

Find Global Functions and Variables Used by a Closure

Description

Finds global functions and variables used by a closure.

Usage

findGlobals(fun, merge = TRUE)

Arguments

fun closure.
merge logical
showTree

Details

The result is an approximation. R semantics only allow variables that might be local to be identified (and event that assumes no use of assign and rm).

Value

Character vector if merge is true; otherwise, a list with functions and variables components.

Author(s)

Luke Tierney

Examples

findGlobals(findGlobals)
findGlobals(findGlobals, merge = FALSE)

showTree(e, write = cat)

Arguments

e R expression.
write function of one argument to write the result.

Author(s)

Luke Tierney

Examples

showTree(quote(-3))
showTree(quote("x"<-1))
showTree(quote("f"(x)))

Description

Prints a Lisp-style representation of R expression. This can be useful for understanding how some things are parsed.

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