Package ‘codetools’

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Priority recommended
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Description Code analysis tools for R.
Title Code Analysis Tools for R
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R topics documented:

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Description
Check R code for possible problems.
Usage

checkUsage(fun, name = "<anonymous>", report = cat, all = FALSE, suppressLocal = FALSE, suppressParamAssigns = !all, suppressParamUnused = !all, suppressFundefMismatch = FALSE, suppressLocalUnused = FALSE, suppressNoLocalFun = !all, skipWith = FALSE, suppressUndefined = dfltSuppressUndefined, 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)

codetools Low Level Code Analysis Tools for R

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.
body of a closure.
name character.
env character.
envir environment.
w code walker.
... extra elements for code walker.
collect function.
fail function.
handler function.
call function.
leaf function.
isLocal function.
exit function.
enterLocal function.
enterGlobal function.
enterInternal function.
startCollectLocals function.
finishCollectLocals function.
warn function.
signal function.

Author(s)
Luke Tierney

findGlobals \hspace{1cm} \textit{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 function object; usually a 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 character vector components. Character vectors are of length zero for non-closures.

**Author(s)**  
Luke Tierney

**Examples**  
```
findGlobals(findGlobals)
findGlobals(findGlobals, merge = FALSE)
```

---

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

**Usage**  
```
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)))
```
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