Package 'tailr'

December 21, 2018

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```
build_transformed_function
```

Construct the expression for a transformed function body.

Description

This is where the loop-transformation is done. This function translates the body of a recursive function into a looping function.

Usage

```
build_transformed_function(fun, fun_name)
```

Arguments

fun The original function

fun_name The name of the function we are transforming

Value

The body of the transformed function.

```
can_loop_transform_ Tests if a function, provided by its name, can be transformed.
```

Description

This function analyses a recursive function to check if we can transform it into a loop or trampoline version with transform. Since this function needs to handle recursive functions, it needs to know the name of its input function, so this must be provided as a bare symbol.

Usage

```
can_loop_transform_(fun)
can_loop_transform(fun)
```

Arguments

fun

The function to check. Must be provided by its (bare symbol) name.

Functions

- can_loop_transform_: This version expects fun to be quosure.
- can_loop_transform: This version quotes fun itself.

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Examples

```
factorial <- function(n)
    if (n <= 1) 1 else n * factorial(n - 1)
factorial_acc <- function(n, acc = 1)
    if (n <= 1) acc else factorial_acc(n - 1, n * acc)

can_loop_transform(factorial) # FALSE -- and prints a warning
can_loop_transform(factorial_acc) # TRUE

can_loop_transform_(rlang::quo(factorial)) # FALSE -- and prints a warning
can_loop_transform_(rlang::quo(factorial_acc)) # TRUE</pre>
```

loop_transform

Transform a function from recursive to looping.

Description

Since this function needs to handle recursive functions, it needs to know the name of its input function, so this must be provided as a bare symbol.

Usage

```
loop_transform(fun, byte_compile = TRUE, set_srcref = TRUE)
```

Arguments

fun The function to transform. Must be provided as a bare name.

byte_compile Flag specifying whether to compile the function after transformation.

set_srcref Flag specifying whether the "srcref" attribute should be set to the original value.

If you do this, you can print the modified function and it will look like the

original, but printing it will not show the actual, tranformed, source.

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