

Package ‘easyreporting’

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Type Package

Title Helps creating report for improving Reproducible computational Research

Version 1.0.0

Description An S4 class for facilitating the automated creation of rmarkdown files inside other packages/software, even without knowing rmarkdown language. Best if implemented in functions as ``recursive" style programming.

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compile	<i>compile</i>
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Description

prints the sessionInfo and compiles the produced rmarkdown file into an HTML report.

Usage

```
compile(object)
```

Arguments

object an easyreporting class object

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report", title="example_report",
                    author=c("It's me"))
compile(rd)
```

```
compile,easyreporting-method
      compile
```

Description

prints the sessionInfo and compiles the rmarkdown file

Usage

```
## S4 method for signature 'easyreporting'
compile(object)
```

Arguments

object an easyreporting class object

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report", title="example_report",
                    author=c("It's me"))
compile(rd)
```

```
easyreporting            easyreporting
```

Description

An S4 class for managing rmarkdown report. Each instance describes an rmarkdown file.

Usage

```
easyreporting(filenamePath, title, author, optionList = NULL)
```

Arguments

filenamePath the path with the name of the rmarkdown.
title the title of the report section.
author the author of the report.
optionList a list of options for the general rmarkdown document.

Value

an S4 easyreporting class instance

Slots

`filenamePath` the path with the name of the rmarkdown.
`title` the title of the report section.
`author` the author of the report.
`documentType` the type of the final document (fixed to "html").
`optionList` a list of options for the general rmarkdown document.

Examples

```
rd <- easyreporting(filenamePath="./project_report",  
                    title="example_report", author="It's me")
```

<code>getOptionsList</code>	<i>getOptionsList</i>
-----------------------------	-----------------------

Description

returns the `optionList` from the `easyreporting` class (see the `makeOptionList` function for more details).

Usage

```
getOptionsList(object)
```

Arguments

`object` an `easyreporting` class object

Value

a list of options

Examples

```
rd <- easyreporting(filenamePath="./project_report", title="example_report",  
                    author=c("It's me"))  
optList <- getOptionsList(rd)
```

`getOptionsList,easyreporting-method`
getOptionsList

Description

returns the optionList from the easyreporting class

Usage

```
## S4 method for signature 'easyreporting'  
getOptionsList(object)
```

Arguments

object an easyreporting class object

Value

a list of options

Examples

```
rd <- easyreporting(filenamePath="./project_report", title="example_report",  
                    author=c("It's me"))  
optList <- getOptionsList(rd)
```

`getReportFilename` *getReportFilename*

Description

returns the filename with its path of the report generated by easyreporting

Usage

```
getReportFilename(object)
```

Arguments

object an easyreporting class object

Value

a string of report file name with path

Examples

```
rd <- easyreporting(filenamePath="./project_report",  
                    title="example_report", author=c("It's me"))  
(rep <- getReportFilename(rd))
```

```
getReportFilename, easyreporting-method  
  getReportFilename
```

Description

returns the report filename with path

Usage

```
## S4 method for signature 'easyreporting'  
getReportFilename(object)
```

Arguments

object an easyreporting class object

Value

a string of report file name with path

Examples

```
rd <- easyreporting(filenamePath="./project_report",  
                    title="example_report", author=c("It's me"))  
(rep <- getReportFilename(rd))
```

```
makeOptionsList        makeOptionsList
```

Description

makes an list of rmarkdown options

Usage

```
makeOptionsList(  
  cacheFlag = TRUE,  
  evalFlag = TRUE,  
  echoFlag = TRUE,  
  warningFlag = FALSE,  
  showMessages = FALSE,  
  includeFlag = TRUE  
)
```

Arguments

cacheFlag	boolean for caching chunk data (default TRUE)
evalFlag	boolean for evaluating the code chunk in the compiled version (default TRUE)
echoFlag	boolean for showing the code chunk (default TRUE)
warningFlag	boolean for showing the chunk warnings (default FALSE)
showMessages	boolean for showing the chunk warnings in compiled version (default FALSE)
includeFlag	boolean for including the code chunk in the compiled version (default TRUE)

Value

list of rmarkdown options

Examples

```
optList <- makeOptionsList()
```

mkdCodeChunkCommented *mkdCodeChunkCommented*

Description

it creates a complete code chunk, adding a natural language comment before of it.

Usage

```
mkdCodeChunkCommented(
  object,
  commentMsg = NULL,
  codeMsg,
  optionList = getOptionsList(object),
  sourceFilesList = NULL
)
```

Arguments

object	an easyreporting class object
commentMsg	a string with the natural language comment for the chunk.
codeMsg	a string within the code.
optionList	a list of options (default is the class options).
sourceFilesList	a optional list of files to source inside the chunk.

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
optList <- makeOptionsList(includeFlag=TRUE, cacheFlag=TRUE)
mkdCodeChunkCommented(rd,
                      commentMsg="This is the comment of the following code chunk",
                      codeMsg="a <- 1\nb <- 2\n(c <- a+b)\n", optionList=optList,
                      sourceFilesList=NULL)
```

mkdCodeChunkCommented,easyreporting-method
mkdCodeChunkCommented

Description

it creates a complete code chunk, adding a natural language comment before of it.

Usage

```
## S4 method for signature 'easyreporting'
mkdCodeChunkCommented(
  object,
  commentMsg = NULL,
  codeMsg,
  optionList = getOptionsList(object),
  sourceFilesList = NULL
)
```

Arguments

<code>object</code>	an easyreporting class object
<code>commentMsg</code>	a string with the natural language comment for the chunk.
<code>codeMsg</code>	a string within the code.
<code>optionList</code>	a list of options (default is the class options).
<code>sourceFilesList</code>	an optional list of files to source inside the chunk.

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
optList <- makeOptionsList(includeFlag=TRUE, cacheFlag=TRUE)
mkdCodeChunkCommented(rd,
                      commentMsg="This is the comment of the following code chunk",
                      codeMsg="a <- 1\nb <- 2\n(c <- a+b)\n", optionList=optList,
                      sourceFilesList=NULL)
```

mkdCodeChunkComplete *mkdCodeChunkComplete*

Description

it creates a complete code chunk.

Usage

```
mkdCodeChunkComplete(
  object,
  message,
  optionList = getOptionsList(object),
  sourceFilesList = NULL
)
```

Arguments

object	an easyreporting class object
message	a string containing a function call or the entire code chunk to trace.
optionList	a list of options.
sourceFilesList	a list of files to source.

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
  title="example_report", author=c("It's me"))
mkdCodeChunkComplete(rd, message="a <- 1\nb <- 2\nc <- a+b\n print(c)")
```

mkdCodeChunkComplete, easyreporting-method
mkdCodeChunkComplete

Description

it creates a complete code chunk.

Usage

```
## S4 method for signature 'easyreporting'
mkdCodeChunkComplete(
  object,
  message,
  optionList = getOptionsList(object),
  sourceFilesList = NULL
)
```

Arguments

object an easyreporting class object
message a string containing a function call or the entire code chunk to trace.
optionList a list of options.
sourceFilesList a list of files to source.

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",  
                    title="example_report", author=c("It's me"))  
mkdCodeChunkComplete(rd, message="a <- 1\nb <- 2\nc <- a+b\n print(c)")
```

mkdCodeChunkEnd

mkdCodeChunkEnd

Description

it creates a code chunk end. Always use it after a mkdCodeChunkSt()

Usage

```
mkdCodeChunkEnd(object)
```

Arguments

object an easyreporting class object

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",  
                    title="example_report", author=c("It's me"))  
mkdCodeChunkSt(rd)  
## just leaving empty  
mkdCodeChunkEnd(rd)
```

mkdCodeChunkEnd,easyreporting-method
mkdCodeChunkEnd

Description

it creates a code chunk end. Always use it after a mkdCodeChunkSt()

Usage

```
## S4 method for signature 'easyreporting'  
mkdCodeChunkEnd(object)
```

Arguments

object an easyreporting class object

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",  
                    title="example_report", author=c("It's me"))  
mkdCodeChunkSt(rd)  
## just leaving empty  
mkdCodeChunkEnd(rd)
```

mkdCodeChunkSt *mkdCodeChunkSt*

Description

it creates a code chunk start. A list of options and files to source for the chunk can optionally be passed to the function.

Usage

```
mkdCodeChunkSt(  
  object,  
  optionList = getOptionsList(object),  
  sourceFilesList = NULL,  
  isComplete = FALSE  
)
```

Arguments

object	an easyreporting class object
optionList	a list of options
sourceFilesList	a list of files that can be sourced inside the code chunk.
isComplete	a flag determining if the chunk is already a complete chunk

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))

## no options
mkdCodeChunkSt(rd)
## just leaving empty
mkdCodeChunkEnd(rd)

## setting options
optList <- makeOptionsList(includeFlag=TRUE)
mkdCodeChunkSt(rd, optionList=optList)
## just leaving empty
mkdCodeChunkEnd(rd)
```

mkdCodeChunkSt,easyreporting-method
mkdCodeChunkSt

Description

it creates a code chunk start. A list of options and files to source for the chunk can optionally be passed to the function.

Usage

```
## S4 method for signature 'easyreporting'
mkdCodeChunkSt(
  object,
  optionList = getOptionsList(object),
  sourceFilesList = NULL,
  isComplete = FALSE
)
```

Arguments

object	an easyreporting class object
optionList	a list of options
sourceFilesList	a list of files that can be sourced inside the code chunk.
isComplete	a flag determining if the chunk is already a complete chunk

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))

## no options
mkdCodeChunkSt(rd)
## just leaving empty
mkdCodeChunkEnd(rd)

## setting options
optList <- makeOptionsList(includeFlag=TRUE)
mkdCodeChunkSt(rd, optionList=optList)
## just leaving empty
mkdCodeChunkEnd(rd)
```

```
mkdCodeChunkTitledCommented
      mkdCodeChunkCommented
```

Description

it creates a complete code chunk, adding a natural language comment before of it.

Usage

```
mkdCodeChunkTitledCommented(
  object,
  title = NULL,
  level = 1,
  commentMsg = NULL,
  codeMsg,
  optionList = getOptionsList(object),
  sourceFilesList = NULL
)
```

Arguments

<code>object</code>	an easyreporting class object
<code>title</code>	the title to assign to the code chunk section
<code>level</code>	the level of the title (default is 1)
<code>commentMsg</code>	a string with the natural language comment for the chunk.
<code>codeMsg</code>	a string within the code.
<code>optionList</code>	a list of options (default is the class options).
<code>sourceFilesList</code>	a optional list of files to source inside the chunk.

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
optList <- makeOptionsList(includeFlag=TRUE, cacheFlag=TRUE)
mkdCodeChunkCommented(rd,
                      commentMsg="This is the comment of the following code chunk",
                      codeMsg="a <- 1\nb <- 2\n(c <- a+b)\n", optionList=optList,
                      sourceFilesList=NULL)
```

```
mkdCodeChunkTitledCommented,easyreporting-method
      mkdCodeChunkTitledCommented
```

Description

it creates a complete code chunk, adding a natural language comment before of it.

Usage

```
## S4 method for signature 'easyreporting'
mkdCodeChunkTitledCommented(
  object,
  title = NULL,
  level = 1,
  commentMsg = NULL,
  codeMsg,
  optionList = getOptionsList(object),
  sourceFilesList = NULL
)
```

Arguments

<code>object</code>	an easyreporting class object
<code>title</code>	the title to assign to the code chunk section
<code>level</code>	the level of the title (default is 1)
<code>commentMsg</code>	a string with the natural language comment for the chunk.
<code>codeMsg</code>	a string within the code.
<code>optionList</code>	a list of options (default is the class options).
<code>sourceFilesList</code>	an optional list of files to source inside the chunk.

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
optList <- makeOptionsList(includeFlag=TRUE, cacheFlag=TRUE)
mkdCodeChunkTitledCommented(rd, title="Title Example", level=1,
                             commentMsg="This is the comment of the following code chunk",
                             codeMsg="a <- 1\nb <- 2\n(c <- a+b)\n", optionList=optList,
                             sourceFilesList=NULL)
```

mkdGeneralMsg

mkdGeneralMsg

Description

It appends a general message to the report, useful for describing a code chunk or a part of the report. Useful for adding natural language comments.

Usage

```
mkdGeneralMsg(object, message)
```

Arguments

object	an easyreporting class object
message	the message to append to the report

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
mkdGeneralMsg(rd, message="Writing a paragraph to describe my code chunk")
```

mkdGeneralMsg, easyreporting-method

mkdGeneralMsg

Description

It appends a general message to the report. Useful for adding natural language comments.

Usage

```
## S4 method for signature 'easyreporting'
mkdGeneralMsg(object, message)
```

Arguments

object	an easyreporting class object
message	the message to append to the report

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
mkdGeneralMsg(rd, "Writing a paragraph to describe my code chunk")
```

`mkdGeneralTitledMsg` *mkdGeneralTitledMsg*

Description

It appends a a titled section followed by a general message to the report. Useful for adding natural language comments.

Usage

```
mkdGeneralTitledMsg(object, title = NULL, level = 1, message)
```

Arguments

object	an easyreporting class object
title	the title of the report section.
level	the level (1 to 6) of the title (default is 1)
message	the message to append to the report

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
mkdGeneralTitledMsg(rd, title="Generic SubTitle for this message", level=2,
                    message="Writing a paragraph to describe my code chunk")
```

```
mkdGeneralTitledMsg,easyreporting-method
      mkdGeneralTitledMsg
```

Description

It appends a a titled section followed by a general message to the report. Useful for adding natural language comments.

Usage

```
## S4 method for signature 'easyreporting'
mkdGeneralTitledMsg(object, title = NULL, level = 1, message)
```

Arguments

object	an easyreporting class object
title	the optional title to give to the message section
level	the level (1 to 6) of the title (default is 1)
message	the message to append to the report

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
mkdGeneralTitledMsg(rd, title="Generic SubTitle for this message", level=2,
                    message="Writing a paragraph to describe my code chunk")
```

```
mkdTitle          mkdTitle
```

Description

Inserts an rmarkdown title inside the report, useful for create distinct sections inside the final resport.

Usage

```
mkdTitle(object, title, level = 1)
```

Arguments

object	an easyreporting class object
title	a string within the title.
level	a numeric from 1 to 6 (default is 1).

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))

mkdTitle(rd, "First Level Title")
mkdTitle(rd, "Sub-Title", level=2)
```

mkdTitle,easyreporting-method
mkdTitle

Description

Inserts an rmarkdown title inside the report.

Usage

```
## S4 method for signature 'easyreporting'
mkdTitle(object, title, level = 1)
```

Arguments

object	an easyreporting class object
title	a string within the title.
level	a numeric from 1 to 6 (default is 1).

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))

mkdTitle(rd, "First Level Title")
mkdTitle(rd, "Sub-Title", level=2)
```

 mkdVariableAssignment *mkdVariableAssignment*

Description

it includes a variable assignment in the report. NB: a call to the "mkdCodeChunkSt" has to be done before using it.

Usage

```
mkdVariableAssignment(object, variable.name, variable.object.name, show)
```

Arguments

object	an easyreporting class object
variable.name	a string indicating the name of the variabe to store in the report. (This can be changed here, but further uses of the variable needs to take into account the variable name change).
variable.object.name	the name of the already existing variable. (This cannot be canged.)
show	a boolean indicating if to show the message before writing it into the rmarkdown file.

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
## leaving the default options to the code chunk
mkdCodeChunkSt(rd)
## adding a variable assignement
variable <- 1
mkdVariableAssignment(rd, "variable", "variable", show=TRUE)
mkdCodeChunkEnd(rd)
```

 mkdVariableAssignment, easyreporting-method
mkdVariableAssignment

Description

it includes a variable assignment in the report. NB: a call to the "mkdCodeChunkSt" has to be done before using it.

Usage

```
## S4 method for signature 'easyreporting'
mkdVariableAssignment(
  object,
  variable.name,
  variable.object.name,
  show = FALSE
)
```

Arguments

`object` an easyreporting class object

`variable.name` a string indicating the name of the variable to store in the report. (This can be changed here, but further uses of the variable needs to take into account the variable name change).

`variable.object.name` the name of the already existing variable. (This cannot be changed.)

`show` a boolean indicating if to show the message before writing it into the rmarkdown file.

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))
## leaving the default options to the code chunk
mkdCodeChunkSt(rd)
## adding a variable assignment
variable <- 1
mkdVariableAssignment(rd, "variable", "variable", show=TRUE)
mkdCodeChunkEnd(rd)
```

setOptionsList

setOptionsList

Description

set an optionList to the class, it automatically sets the options for the rmarkdown file. Are useful for the interpretation/execution of the code chunks.

Usage

```
setOptionsList(
  object,
  cacheFlag = TRUE,
  evalFlag = TRUE,
  echoFlag = TRUE,
```

```
warningFlag = FALSE,
showMessages = FALSE,
includeFlag = TRUE
)
```

Arguments

object	an easyreporting class object
cacheFlag	boolean for caching chunk data (default TRUE)
evalFlag	boolean for evaluating the code chunk in the compiled version (default TRUE)
echoFlag	boolean for showing the code chunk (default TRUE)
warningFlag	boolean for showing the chunk warnings (default FALSE)
showMessages	boolean for showing the chunk warnings in compiled
includeFlag	boolean for including the code chunk in the compiled version (default TRUE)

Value

none

Examples

```
rd <- easyreporting(filenamePath="./project_report",
                    title="example_report", author=c("It's me"))

## setting default option
setOptionsList(rd)

## modifying only some options
rd <- setOptionsList(rd, warningFlag=TRUE,
                    showMessages=TRUE, includeFlag=TRUE)
```

setOptionsList,easyreporting-method
setOptionsList

Description

set an optionList to the class

Usage

```
## S4 method for signature 'easyreporting'
setOptionsList(
  object,
  cacheFlag = TRUE,
  evalFlag = TRUE,
  echoFlag = TRUE,
  warningFlag = FALSE,
  showMessages = FALSE,
  includeFlag = TRUE
)
```


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