Package ‘spam64’

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Type Package

Title 64-Bit Extension of the SPArse Matrix R Package ‘spam’

Version 2.8-0

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Description Provides the Fortran code of the R package ‘spam’ with 64-bit integers. Loading this package together with the R package spam enables the sparse matrix class spam to handle huge sparse matrices with more than $2^{31}-1$ non-zero elements. Documentation is provided in Gerber, Moesinger and Fur- rer (2017) <doi:10.1016/j.cageo.2016.11.015>.

Suggests spam (== 2.8-0)

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URL https://git.math.uzh.ch/reinhard.furrer/spam

NeedsCompilation yes

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spam64-package 64-bit extension for the SPArse Matrix Package spam

Description

Provides the Fortran code of the R package spam with 64-bit integers. Loading this package together with the R package spam enables the sparse matrix class spam to handle huge sparse matrices with more than $2^{31}-1$ non-zero elements.

Note

It is intended to use spam64 together with spam. To avoid issues on 32-bit platforms we did not link the packages spam and spam64 using dependencies. Conversion between the structures happens when calling low-level functions and for some other selected operations. Some spam64 functions have been successfully tested with 64-bit matrices. However, we expect that some functions of spam do not work with 64-bit matrices (yet). Please do not hesitate to contact us via email or https://git.math.uzh.ch/reinhard.furrer/spam in case you would like to use a spam function with 64-bit matrices that is not working properly in the current version.

Author(s)

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References


Examples

library("spam")
library("spam64")

tiny <- spam(1)
pad(tiny) <- c(3,2^32)
tiny
str(tiny)  # tiny matrix big time

print(A <- spam_random(3))
options(spam.force64 = TRUE)  # forcing 64-bit structure
print(B <- spam_random(3))
A+B

options(spam.force64 = FALSE)
B  # No operations, structure is preserved
A+B  # Lowlevel operation, structure is adapted
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