Package: fftw (via r-universe)

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Version 1.0-9

Title Fast FFT and DCT Based on the FFTW Library

Description Provides a simple and efficient wrapper around the fastest Fourier transform in the west (FFTW) library <http://www.fftw.org/>.

Depends R (>= 3.0.0)

SystemRequirements fftw3 (>= 3.1.2)

License GPL-2

RoxygenNote 6.0.1

NeedsCompilation yes

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FFT *Calculate (inverse) DFT using the FFT method*

Description

see title

Usage

```
FFT(x, ..., plan, inverse=FALSE)
IFFT(x, ..., plan, scale=TRUE)
DCT(x, ..., plan, type=1, inverse=FALSE)
IDCT(x, ..., plan, type=1, scale=TRUE)
```

Arguments

x	(complex) vector to process
...	ignored
plan	FFTW plan, can be missing
inverse	perform inverse transform, provided for `fft` compatibility.
scale	scale results
type	type of DCT

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See Also

planFFT

Examples

```
n <- 2**16
x <- rnorm(n)
p <- planFFT(n)
y <- FFT(x, plan=p)

Mod(x - IFFT(FFT(x)))
```

planFFT *Create FFTW plan*

Description

see title

Usage

```
planFFT(n, effort=0)
planDCT(n, type=1, effort=0)
```

Arguments

n	size of transform
type	type of DCT
effort	how hard fftw tries to find an optimal plan (0 to 3)

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See Also

FFT and IFFT

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