cmplx

package standard library

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Documentation

Documentation

Overview

Package cmplx provides basic constants and mathematical functions for complex numbers. Special case handling conforms to the C99 standard Annex G IEC 60559-compatible complex arithmetic.

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Examples

Constants

This section is empty.

Variables

This section is empty.

Functions

func Abs

```
func Abs(x complex128) float64
```

Abs returns the absolute value (also called the modulus) of x.

▶ Example

func Acos

```
func Acos(x complex128) complex128
```

Acos returns the inverse cosine of x.

func Acosh

```
func Acosh(x complex128) complex128
```

Acosh returns the inverse hyperbolic cosine of x.

func Asin

```
func Asin(x complex128) complex128
```

Asin returns the inverse sine of x.

func Asinh

```
func Asinh(x complex128) complex128
```

Asinh returns the inverse hyperbolic sine of x.

func Atan

```
func Atan(x complex128) complex128
```

Atan returns the inverse tangent of x.

func Atanh

```
func Atanh(x complex128) complex128
```

Atanh returns the inverse hyperbolic tangent of x.

func Conj

```
func Conj(x complex128) complex128
```

Conj returns the complex conjugate of x.

func Cos

```
func Cos(x complex128) complex128
```

Cos returns the cosine of x.

func Cosh

```
func Cosh(x complex128) complex128
```

Cosh returns the hyperbolic cosine of x.

func Cot

```
func Cot(x complex128) complex128
```

Cot returns the cotangent of x.

func Exp

```
func Exp(x complex128) complex128
```

Exp returns e**x, the base-e exponential of x.

▶ Example

func Inf

```
func Inf() complex128
```

Inf returns a complex infinity, complex(+Inf, +Inf).

func IsInf

```
func IsInf(x complex128) bool
```

IsInf reports whether either real(x) or imag(x) is an infinity.

func IsNaN

```
func IsNaN(x complex128) bool
```

IsNaN reports whether either real(x) or imag(x) is NaN and neither is an infinity.

func Log

```
func Log(x complex128) complex128
```

Log returns the natural logarithm of x.

func Log10

```
func Log10(x complex128) complex128
```

Log10 returns the decimal logarithm of x.

func NaN

```
func NaN() complex128
```

NaN returns a complex “not-a-number” value.

func Phase

```
func Phase(x complex128) float64
```

Phase returns the phase (also called the argument) of x. The returned value is in the range [-Pi, Pi].

func Polar

```
func Polar(x complex128) (r, θ float64)
```

Polar returns the absolute value r and phase θ of x, such that x = r * e**θi. The phase is in the range [-Pi, Pi].

▶ Example

func Pow

```
func Pow(x, y complex128) complex128
```

Pow returns x**y, the base-x exponential of y. For generalized compatibility with math.Pow:

```
Pow(0, ±0) returns 1+0i
Pow(0, c) for real(c)<0 returns Inf+0i if imag(c) is zero, otherwise Inf+Inf i.
```

func Rect

```
func Rect(r, θ float64) complex128
```

Rect returns the complex number x with polar coordinates r, θ.

func Sin

```
func Sin(x complex128) complex128
```

Sin returns the sine of x.

func Sinh

```
func Sinh(x complex128) complex128
```

Sinh returns the hyperbolic sine of x.

func Sqrt

```
func Sqrt(x complex128) complex128
```

Sqrt returns the square root of x. The result r is chosen so that real(r) ≥ 0 and imag(r) has the same sign as imag(x).

func Tan

```
func Tan(x complex128) complex128
```

Tan returns the tangent of x.

func Tanh

```
func Tanh(x complex128) complex128
```

Tanh returns the hyperbolic tangent of x.

Types

This section is empty.

Source Files

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