**Special functions**

math.erf(X)

Return the error function at X.

The erf() function can be used to compute traditional statistical functions such as the cumulative standard normal distribution:

def phi(X):

'Cumulative distribution function for the standard normal distribution'

return (1.0 + erf(X / sqrt(2.0))) / 2.0

math.erfc(X)

Return the complementary error function at X. The complementary error function is defined as 1.0 - erf(X). It is used for large values of X where a subtraction from one would cause a loss of significance.

math.gamma(X)

Return the Gamma function at X.

math.lgamma(X)

Return the natural logarithm of the absolute value of the Gamma function at X.

Constants

math.pi

The mathematical constant π = 3.141592…, to available precision.

math.e

The mathematical constant e = 2.718281…, to available precision.

math.tau

The mathematical constant τ = 6.283185…, to available precision. Tau is a circle constant equal to 2π, the ratio of a circle’s circumference to its radius. To learn more about Tau, check out Vi Hart’s video Pi is (still) Wrong, and start celebrating Tau day by eating twice as much pie!

math.inf

A floating-point positive infinity. (For negative infinity, use -math.inf.) Equivalent to the output of float('inf').

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math.nan

A floating-point “not a number” (NaN) value. Equivalent to the output of float('nan').