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numpy.log2

`numpy.log2(x[, out]) = <ufunc 'log2'>`

Base-2 logarithm of x .

Parameters: `x : array_like`

Input values.

Returns: `y : ndarray`

Base-2 logarithm of x .

See also:

[log](#) ([numpy.log.html#numpy.log](#)), [log10](#) ([numpy.log10.html#numpy.log10](#)), [log1p](#) ([numpy.log1p.html#numpy.log1p](#)), [emath.log2](#)

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Notes

New in version 1.3.0.

Logarithm is a multivalued function: for each x there is an infinite number of z such that $2^{**}z = x$. The convention is to return the z whose imaginary part lies in $[-\pi i, \pi i]$.

For real-valued input data types, `log2` always returns real output. For each value that cannot be expressed as a real number or infinity, it yields `nan` and sets the *invalid* floating point error flag.

For complex-valued input, `log2` is a complex analytical function that has a branch cut $[-\infty, 0]$ and is continuous from above on it. `log2` handles the floating-point negative zero as an infinitesimal negative number, conforming to the C99 standard.

Examples

```
>>> x = np.array([0, 1, 2, 2**4]) >>>
>>> np.log2(x)
array([-Inf,  0.,  1.,  4.])
```

```
>>> xi = np.array([0+1.j, 1, 2+0.j, 4.j]) >>>
>>> np.log2(xi)
array([ 0.+2.26618007j,  0.+0.j,  1.+0.j,  2.+2.26618007j])
```