mathh egg

Provides access to ISO C math functions in `<math.h>` that are not defined by Chicken.
Extension for Chicken Scheme
Version 1.3

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Table of Contents

1 About this egg

1.1 Version history

1.3   Removed fpclassify (for now), tgamma -> gamma [Kon Lovett]

1.2   Added missing setup-header [felix]

1.1   More math.h functions & constants [Kon Lovett]

1.0   Initial release

1.2 Usage

Load this egg like so:

```
(require-extension mathh)
```

2 Documentation

The following procedures are provided, with their usual meaning. The procedures `modf` and `frexp` return two result values, the integral and fractional part of a floating-point number and the fraction and the exponent part, respectively.

The Bessel functions are prefixed by 'bessel-' to distinguish the names from common variables.

Windows does not provide implementations of log1p, lgamma, tgamma.

2.1 Functions

`bessel-j0`   [procedure]
      `(bessel-j0 N)`

`bessel-j1`   [procedure]
      `(bessel-j1 N)`

`bessel-jn`   [procedure]
      `(bessel-jn O N)`

`bessel-y0`   [procedure]
      `(bessel-y0 N)`

`bessel-y1`   [procedure]
      `(bessel-y1 N)`

`bessel-yn`   [procedure]
      `(bessel-yn O N)`

`cosh`   [procedure]
      `(cosh N)`

`sinh`   [procedure]
      `(sinh N)`

`tanh`   [procedure]
      `(tanh N)`

`hypot`   [procedure]
      `(hypot N1 N2)`

`gamma`   [procedure]
      `(gamma N)`

`lgamma`   [procedure]
      `(lgamma N)`

`log10`   [procedure]
      `(log10 N)`

```
log2                                                                    [procedure]
        (log2 N)
```

```
log1p                                                                   [procedure]
        (log1p N)
```

```
fpmod                                                                   [procedure]
        (fpmod N M)
```

```
modf                                                                    [procedure]
        (modf N)
```

```
ldexp                                                                   [procedure]
        (ldexp N)
```

```
frexp                                                                   [procedure]
        (frexp N)
```

2.2 Constants

Common constants, using 'define-constant'. As such they must be textually included
- (include "mathh-constants"). Make sure the 'chicken-setup -R' is part of your
"CHICKEN_INCLUDE_PATH" enviroment variable before compiling.

```
E         e
```

```
1/E       1/e
```

```
E^2       e^2
```

```
E^PI/4    e^(pi/4)
```

```
LOG2E     log2(e)
```

```
LOG10E    log10(e)
```

```
LN2       log(2)
```

```
LN3       ln(3)
```

```
LNPI      ln(pi)
```

```
LN10      log(10)
```

```
1/LN2     1/ln(2)
```

```
1/LN10    1/ln(10)
```

```
PI        pi
```

```
PI/2      pi/2
```

```
PI/4      pi/4
```

```
1/PI      1/pi
```

```
2/PI      2/pi
```

```
2/SQRTPI  2/sqrt(pi)
```

`SQRTPI`	sqrt(pi)
`PI^2`	pi^2
`DEGREE`	pi/180
`SQRT2`	sqrt(2)
`1/SQRT2`	1/sqrt(2)
`SQRT3`	sqrt(3)
`SQRT5`	sqrt(5)
`SQRT10`	sqrt(10)
`CUBERT2`	cubert(2)
`CUBERT3`	cubert(3)
`4THRT2`	fourthrt(2)
`GAMMA1/2`	gamma(1/2)
`GAMMA1/3`	gamma(1/3)
`GAMMA2/3`	gamma(2/3)
`PHI`	phi
`LNPHI`	ln(phi)
`1/LNPHI`	1/ln(phi)
`EULER`	euler
`E^EULER`	e^euler
`SIN1`	sin(1)
`COS1`	cos(1)
`ZETA3`	theta(3)

3 License

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Index