

**NAME**

snglmath.lib, dblmath.lib, tbmaths.lib – INMOS occam toolset maths libraries

**SYNOPSIS**

```
#USE "snglmath.lib"
#USE "dblmath.lib"
#USE "tbmaths.lib"
```

**SUMMARY**

The occam toolset maths libraries snglmath.lib, dblmath.lib, tbmaths.lib provide various mathematical functions.

**OVERVIEW**

To use the functions in this library do the following:

```
#USE "snglmath.lib"
#USE "dblmath.lib"
#USE "tbmaths.lib"
```

All the libraries provide the following standard mathematical functions: COS, SIN, TAN, COSH, SINH, TANH, ATAN, ACOS, ASIN, ATAN2. Also provided is LOG (logarithm base 2), LOG10 (base 10), EXP and POWER.

The single precision (REAL32) functions have the names above and the double precision versions (REAL64) have the same name but prefixed with a D.

**snglmath.lib**

This library provides functions that handle REAL32 numbers.

```
REAL32 FUNCTION ACOS (VAL REAL32 X)
REAL32 FUNCTION ALOG (VAL REAL32 X)
REAL32 FUNCTION ALOG10 (VAL REAL32 X)
REAL32 FUNCTION ASIN (VAL REAL32 X)
REAL32 FUNCTION ATAN (VAL REAL32 X)
REAL32 FUNCTION ATAN2 (VAL REAL32 U, VAL REAL32 V)
REAL32 FUNCTION COS (VAL REAL32 X)
REAL32 FUNCTION COSH (VAL REAL32 X)
REAL32 FUNCTION EXP (VAL REAL32 X)
REAL32 FUNCTION POWER (VAL REAL32 Base.r, VAL REAL32 Expn.r)
REAL32,INT32 FUNCTION RAN (VAL INT32 SeedRan)
REAL32 FUNCTION SIN (VAL REAL32 X)
REAL32 FUNCTION SINH (VAL REAL32 X)
REAL32 FUNCTION TAN (VAL REAL32 X)
REAL32 FUNCTION TANH (VAL REAL32 X)
```

**dblmath.lib**

This library provides functions that handle REAL64 numbers.

```
REAL64 FUNCTION DACOS (VAL REAL64 X)
REAL64 FUNCTION DALOG (VAL REAL64 X)
REAL64 FUNCTION DALOG10 (VAL REAL64 X)
REAL64 FUNCTION DASIN (VAL REAL64 X)
REAL64 FUNCTION DATAN (VAL REAL64 X)
REAL64 FUNCTION DATAN2 (VAL REAL64 U, VAL REAL64 V)
REAL64 FUNCTION DCOS (VAL REAL64 X)
REAL64 FUNCTION DCOSH (VAL REAL64 X)
REAL64 FUNCTION DEXP (VAL REAL64 X)
REAL64 FUNCTION DPOWER (VAL REAL64 Base.r, VAL REAL64 Expn.r)
REAL64,INT64 FUNCTION DRAN (VAL INT64 DSeedIn)
REAL64 FUNCTION DSIN (VAL REAL64 X)
```

```

REAL64 FUNCTION DSINH (VAL REAL64 X)
REAL64 FUNCTION DTAN (VAL REAL64 X)
REAL64 FUNCTION DTANH (VAL REAL64 X)

```

**tbmaths.lib**

This library provides functions that handle both REAL32 and REAL64 numbers.

```

REAL32 FUNCTION ACOS (VAL REAL32 X)
REAL32 FUNCTION ALOG (VAL REAL32 X)
REAL32 FUNCTION ALOG10 (VAL REAL32 X)
REAL32 FUNCTION ASIN (VAL REAL32 X)
REAL32 FUNCTION ATAN (VAL REAL32 X)
REAL32 FUNCTION ATAN2 (VAL REAL32 U, VAL REAL32 V)
REAL32 FUNCTION COS (VAL REAL32 X)
REAL32 FUNCTION COSH (VAL REAL32 X)
REAL64 FUNCTION DACOS (VAL REAL64 X)
REAL64 FUNCTION DALOG (VAL REAL64 X)
REAL64 FUNCTION DALOG10 (VAL REAL64 X)
REAL64 FUNCTION DASIN (VAL REAL64 X)
REAL64 FUNCTION DATAN (VAL REAL64 X)
REAL64 FUNCTION DATAN2 (VAL REAL64 U, VAL REAL64 V)
REAL64 FUNCTION DCOS (VAL REAL64 X)
REAL64 FUNCTION DCOSH (VAL REAL64 X)
REAL64 FUNCTION DEXP (VAL REAL64 X)
REAL64 FUNCTION DPOWER (VAL REAL64 Base.r, VAL REAL64 Expn.r)
REAL64,INT64 FUNCTION DRAN (VAL INT64 DSeedRan)
REAL64 FUNCTION DSIN (VAL REAL64 X)
REAL64 FUNCTION DSINH (VAL REAL64 X)
REAL64 FUNCTION DTAN (VAL REAL64 X)
REAL64 FUNCTION DTANH (VAL REAL64 X)
REAL32 FUNCTION EXP (VAL REAL32 X)
REAL32 FUNCTION POWER (VAL REAL32 Base.r, VAL REAL32 Expn.r)
REAL32,INT32 FUNCTION RAN (VAL INT32 SeedRan)
REAL32 FUNCTION SIN (VAL REAL32 X)
REAL32 FUNCTION SINH (VAL REAL32 X)
REAL32 FUNCTION TAN (VAL REAL32 X)
REAL32 FUNCTION TANH (VAL REAL32 X)

```

**SEE ALSO**

INMOS occam 2 toolset user manual - part 2 (occam libraries and appendices) INMOS document number 72 TDS 276 02.

**AUTHOR**

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