

mathieeedoubtrans

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Chapter 1

mathieeedoubtrans

1.1 mathieeedoubtrans.doc

IEEEDPAcos()	IEEEDPExp()	IEEEDPSin()	IEEEDPTanh()
IEEEDPAsin()	IEEEDPFieee()	IEEEDPSincos()	IEEEDPTieee()
IEEEDPAtan()	IEEEDPLog()	IEEEDPSinh()	
IEEEDPCos()	IEEEDPLog10()	IEEEDPSqrt()	
IEEEDPCosh()	IEEEDPPow()	IEEEDPTan()	

1.2 mathieeedoubtrans.library/IEEEDPAcos

NAME

IEEEDPAcos -- compute the arc cosine of a number

SYNOPSIS

```
x      = IEEEDPAcos( y );
d0/d1      d0/d1
```

```
double  x,y;
```

FUNCTION

Compute arc cosine of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEDPCos(), IEEEDPAtan(), IEEEDPAsin()

1.3 mathieeedoubtrans.library/IEEEDPAsin

NAME

IEEEEDPAsin -- compute the arcsine of a number

SYNOPSIS

```
x      = IEEEEDPAsin( y );  
d0/d1      d0/d1
```

```
double x,y;
```

FUNCTION

Compute the arc sine of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPSin(), IEEEEDPAtan(), IEEEEDPACos()

1.4 mathieeedoubtrans.library/IEEEEDPAtan

NAME

IEEEEDPAtan -- compute the arctangent of a floating point number

SYNOPSIS

```
x      = IEEEEDPAtan( y );  
d0/d1      d0/d1
```

```
double x,y;
```

FUNCTION

Compute arctangent of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPTan(), IEEEEDPAsin(), IEEEEDPACos()

1.5 mathieeedoubtrans.library/IEEEEDPCos

NAME

IEEEEDPCos -- compute the cosine of a floating point number

SYNOPSIS

```
    x    = IEEEEDPCos(  y  );  
d0/d1          d0/d1
```

```
double  x,y;
```

FUNCTION

Compute cosine of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPAcos(), IEEEEDPSin(), IEEEEDPTan()

1.6 mathieeedoubtrans.library/IEEEEDPCosh

NAME

IEEEEDPCosh -- compute the hyperbolic cosine of a floating point number

SYNOPSIS

```
    x    = IEEEEDPCosh(  y  );  
d0/d1          d0/d1
```

```
double  x,y;
```

FUNCTION

Compute hyperbolic cosine of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPSinh(), IEEEEDPTanh()

1.7 mathieeedoubtrans.library/IEEEEDPExp

NAME

IEEEEDPExp -- compute the exponential of e

SYNOPSIS

```

    x      = IEEEEDPExp( y );
    d0/d1      d0/d1

```

```

    double x,y;

```

FUNCTION

Compute e^y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPLog()

1.8 mathieeedoubtrans.library/IEEEDPFieee

NAME

IEEEDPFieee -- convert IEEE single to IEEE double

SYNOPSIS

```

    x      = IEEEDPFieee( y );
    d0/d1      d0

```

```

    float y;
    double x;

```

FUNCTION

Convert IEEE single precision number to IEEE double precision.

INPUTS

y - IEEE single precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPTieee()

1.9 mathieeedoubtrans.library/IEEEDPLog

NAME

IEEEDPLog -- compute the natural logarithm of a floating point number

SYNOPSIS

```

    x    = IEEEEDPLog( y );
d0/d1      d0/d1

```

```
double x,y;
```

FUNCTION

Compute $\ln(y)$ in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPExp()

1.10 mathieeedoubtrans.library/IEEEEDPLog10

NAME

IEEEEDPLog10 -- compute logarithm base 10 of a number

SYNOPSIS

```

    x    = IEEEEDPLog10( y );
d0/d1      d0/d1

```

```
double x,y;
```

FUNCTION

Compute the logarithm base 10 of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPLog()

1.11 mathieeedoubtrans.library/IEEEEDPPow

NAME

IEEEEDPPow -- raise a number to another number power

SYNOPSIS

```

    z    = IEEEEDPPow( x , y );
d0/d1      d2/d3 d0/d1

```



```
double x,y,z;
```

FUNCTION

Compute y^x in IEEE double precision

INPUTS

x - IEEE double precision floating point value
y - IEEE double precision floating point value

RESULT

z - IEEE double precision floating point value

BUGS

SEE ALSO

1.12 mathieeedoubtrans.library/IEEEDPSin

NAME

IEEEDPSin -- compute the sine of a floating point number

SYNOPSIS

```
x      = IEEEDPSin( y );
d0/d1      d0/d1
```

```
double x,y;
```

FUNCTION

Compute sine of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEDPAsin(), IEEEDPTan(), IEEEDPCos()

1.13 mathieeedoubtrans.library/IEEEDPSincos

NAME

IEEEDPSincos -- compute the arc tangent of a floating point number

SYNOPSIS

```
x      = IEEEDPSincos( z , y );
d0/d1      a0 d0/d1
```

```
double x,y,*z;
```

FUNCTION

Compute sin and cosine of y in IEEE double precision.
Store the cosine in *z. Return the sine of y.

INPUTS

y - IEEE double precision floating point value
z - pointer to IEEE double precision floating point number

RESULT

x - IEEE double precision floating point value

BUGS**SEE ALSO**

IEEEDPSin(), IEEEDPCos()

1.14 mathieeedoubtrans.library/IEEEDPSinh

NAME

IEEEDPSinh -- compute the hyperbolic sine of a floating point number

SYNOPSIS

```
x      = IEEEDPSinh( y );  
d0/d1      d0/d1
```

```
double x,y;
```

FUNCTION

Compute hyperbolic sine of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS**SEE ALSO**

IEEEDPCosh, IEEEDPTanh

1.15 mathieeedoubtrans.library/IEEEDPSqrt

NAME

IEEEDPSqrt -- compute the square root of a number

SYNOPSIS

```
x      = IEEEDPSqrt( y );  
d0/d1      d0/d1
```

```
double x,y;
```

FUNCTION
 Compute square root of y in IEEE double precision

INPUTS
 y - IEEE double precision floating point value

RESULT
 x - IEEE double precision floating point value

BUGS

SEE ALSO

1.16 mathieeedoubtrans.library/IEEEDPTan

NAME
 IEEEDPTan -- compute the tangent of a floating point number

SYNOPSIS
 x = IEEEDPTan(y);
 d0/d1 d0/d1

 double x,y;

FUNCTION
 Compute tangent of y in IEEE double precision

INPUTS
 y - IEEE double precision floating point value

RESULT
 x - IEEE double precision floating point value

BUGS

SEE ALSO
 IEEEDPatan(), IEEEDPSin(), IEEEDPCos()

1.17 mathieeedoubtrans.library/IEEEDPTanh

NAME
 IEEEDPTanh -- compute the hyperbolic tangent of a floating point number

SYNOPSIS
 x = IEEEDPTanh(y);
 d0/d1 d0/d1

 double x,y;

FUNCTION
 Compute hyperbolic tangent of y in IEEE double precision

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE double precision floating point value

BUGS

SEE ALSO

IEEEEDPSinh(), IEEEEDPCosh()

1.18 mathieeedoubtrans.library/IEEEEDPTieee

NAME

IEEEEDPTieee -- convert IEEE double to IEEE single

SYNOPSIS

```
x    = IEEEEDPTieee( y );
d0           d0/d1
```

```
double y;
float  x;
```

FUNCTION

Convert IEEE double precision number to IEEE single precision.

INPUTS

y - IEEE double precision floating point value

RESULT

x - IEEE single precision floating point value

BUGS

SEE ALSO

IEEEEDPFieee()