

TUTORIAL 3: MATH OPERATION IN C++

C++ has many functions that allows you to perform mathematical tasks on numbers.

cmath library is required for this operations.

Example:

```
#include <cmath>
```

```
cout << sqrt(64);
```

```
cout << round(2.6);
```

```
cout << log(2);
```

Function	Description
abs(x)	Returns the absolute value of x
acos(x)	Returns the arccosine of x
asin(x)	Returns the arcsine of x
atan(x)	Returns the arctangent of x
cbrt(x)	Returns the cube root of x
ceil(x)	Returns the value of x rounded up to its nearest integer
cos(x)	Returns the cosine of x
cosh(x)	Returns the hyperbolic cosine of x
exp(x)	Returns the value of Ex
expm1(x)	Returns ex -1
fabs(x)	Returns the absolute value of a floating x

fdim(x, y)	Returns the positive difference between x and y
floor(x)	Returns the value of x rounded down to its nearest integer
hypot(x, y)	Returns $\sqrt{x^2 + y^2}$ without intermediate overflow or underflow
fma(x, y, z)	Returns $x*y+z$ without losing precision
fmax(x, y)	Returns the highest value of a floating x and y
fmin(x, y)	Returns the lowest value of a floating x and y
fmod(x, y)	Returns the floating point remainder of x/y
pow(x, y)	Returns the value of x to the power of y
sin(x)	Returns the sine of x (x is in radians)
sinh(x)	Returns the hyperbolic sine of a double value
tan(x)	Returns the tangent of an angle
tanh(x)	Returns the hyperbolic tangent of a double value