

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

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