C++ Math fmin()

The function returns the minimum value between two numbers.

Conditions:

Consider two numbers 'x' and 'y'.

If(x: It returns x.
If(x>y): It returns y.
If(x=nan): It returns y.
If(y=nan):It returns x.

Syntax

```
float fmin(float x, float y);
double fmin(double x, double y);
long double fmin(long double x, long double y);
promoted fmin(Arithmetic x, Arithmetic y);
```

> Note: If any argument has an integral type, then it is cast to double. If any other argument is long double, then it is cast to long double.

Parameter

(x,y): Values among which the minimum value is to be calculated.

Return value

It returns the minimum value between two numbers.

Example 1

Let's see a simple example.

```
#include <iostream>
#include<math.h>
using namespace std;
int main()
{
```

```
  std::cout <<"Values of x and y are :"<<x<<","<<y<< std::endl;
  cout<<"Minimum value is :"<<fmin(x,y);
   return 0;
}
```

Output:

```
Values of x and y are :1.1,2.1
Minimum value is :1.1
```

In this example, value of x is less than the value of y.Therefore, fmin() function returns the value of x.

Example 2

Let's see a simple example when one of the value is nan.

```
#include <iostream>
#include<math.h>
using namespace std;
int main()
{
  float x=10.1;
  double y=NAN;
  std::cout <<"Values of x and y are :"<<x<<","<<y<< std::endl;
  cout<<"Minimum value is :"<<fmin(x,y);
   return 0;
}
```

Output:

```
Values of x and y are :10.1,nan
Minimum value is :10.1
```

In this example, value of y is nan. Therefore, the value of x is returned.

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