C++ Math fmax()

The function returns the maximum value between two numbers.

Conditions:

Consider two numbers 'x' and 'y'.

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

Syntax

```
float fmax(float x, float y);
double fmax(double x, double y);
long double fmax(long double x, long double y);
promoted fmax(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 maximum value is calculated.

Return value

 m value between two numbers.

Example 1

Let's see a simple example.

```
#include <iostream>
#include<math.h>
using namespace std;
int main()
{
  double x=3.3;
  float y=6.9;
  std::cout <<"Values of x and y are :"<<x<<","<<y<< std::endl;
  cout<<"Maximum value is :"<<fmax(x,y);
   return 0;
}
```

Output:

```
Values of x and y are :3.3,6.9
Maximum value is :6.9
```

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

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()
{
  double x=1.3;
  float y=NAN;
  std::cout <<"Values of x and y are :"<<x<<","<<y<< std::endl;
  cout<<"Maximum value is :"<<fmax(x,y);
   return 0;
}
```

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Output:

```
Values of x and y are :1.3,nan
Maximum value is :1.3
```

In this example, value of y is nan.Therefore, fmax() function returns the value of x.

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