

# System.ArithmeticException Class

```
[ILAsm]
.class public serializable ArithmeticException extends
System.SystemException

[C#]
public class ArithmeticException: SystemException
```

## Assembly Info:

- *Name:* mscorlib
- *Public Key:* [00 00 00 00 00 00 00 00 04 00 00 00 00 00 00 00]
- *Version:* 2.0.x.x
- *Attributes:*
  - CLSCompliantAttribute(true)

## Summary

Represents an error caused by an arithmetic operation.

## Inherits From: System.SystemException

**Library:** BCL

**Thread Safety:** All public static members of this type are safe for multithreaded operations. No instance members are guaranteed to be thread safe.

## Description

[*Note:* The Base Class Library includes two types derived from System.ArithmeticException:

- System.DivideByZeroException
- System.OverflowException

When appropriate, use these types instead of System.ArithmeticException.

]

[*Note:* The following CIL instructions throw System.ArithmeticException:

- ckfinite
- div

]

## 1   **Example**

2       The following example demonstrates an error that causes the system to throw a  
3       System.ArithmeticException error.

4  
5       [C#]  
  
6   using System;  
7   class testNan {  
8       public static void Main() {  
9           double myNan = Double.NaN;  
10          try {  
11              Math.Sign(myNan);  
12          }  
13          catch (ArithmeticException e) {  
14              Console.WriteLine("Error: {0}",e);  
15          }  
16      }  
17 }  
18

19   The output is

20  
21   Error: System.ArithmeticException: Function does not accept floating point  
22   Not-a-Number values.  
23

24  
25   at System.Math.Sign(Double value)  
26  
27  
28   at testNan.Main()  
29

30

# ArithmeticException() Constructor

```
[ILAsm]  
public rtspecialname specialname instance void .ctor()  
  
[C#]  
public ArithmeticException()
```

## Summary

Constructs and initializes a new instance of the `System.ArithmeticException` class.

## Description

This constructor initializes the `System.ArithmeticException.Message` property of the new instance to a system-supplied message that describes the error, such as "The arithmetic operation is not allowed." This message takes into account the current system culture.

The `System.ArithmeticException.InnerException` property is initialized to `null`.

# ArithmeticException(System.String)

## Constructor

```
[ILAsm]
public rtspecialname specialname instance void .ctor(string message)

[C#]
public ArithmeticException(string message)
```

### Summary

Constructs and initializes a new instance of the `System.ArithmeticException` class.

### Parameters

Parameter	Description
<i>message</i>	A <code>System.String</code> that describes the error. The content of <i>message</i> is intended to be understood by humans. The caller of this constructor is required to ensure that this string has been localized for the current system culture.

### Description

This constructor initializes the `System.ArithmeticException.Message` property of the new instance using *message*. If *message* is null, the `System.ArithmeticException.Message` property is initialized to a system-supplied message. The `System.ArithmeticException.InnerException` property is initialized to null.

# ArithmeticException(System.String, System.Exception) Constructor

```
[ILAsm]
public rtspecialname specialname instance void .ctor(string message, class
System.Exception innerException)

[C#]
public ArithmeticException(string message, Exception innerException)
```

## Summary

Constructs and initializes a new instance of the `System.ArithmeticException` class.

## Parameters

Parameter	Description
<i>message</i>	A <code>System.String</code> that describes the error. The content of <i>message</i> is intended to be understood by humans. The caller of this constructor is required to ensure that this string has been localized for the current system culture.
<i>innerException</i>	An instance of <code>System.Exception</code> that is the cause of the current exception. If <i>innerException</i> is non-null, then the current exception was raised in a catch block handling <i>innerException</i> .

## Description

This constructor initializes the `System.ArithmeticException.Message` property of the new instance using *message*, and the `System.Exception.InnerException` property using *innerException*. If *message* is null, the `System.ArithmeticException.Message` property is initialized to a system-supplied message.

[*Note:* For information on inner exceptions, see `System.Exception.InnerException`.]