

ArithmeticException Class

Definition

Namespace: [System](#)

Assemblies: netstandard.dll, System.Runtime.dll

Source: [ArithmeticException.cs](#)

The exception that is thrown for errors in an arithmetic, casting, or conversion operation.

C#

```
public class ArithmeticException : SystemException
```

Inheritance Object → Exception → SystemException → ArithmeticException

Derived [System.DivideByZeroException](#)

[System.NotFiniteNumberException](#)

[System.OverflowException](#)

Remarks

[ArithmeticException](#) is the base class for the following exceptions:

- [DivideByZeroException](#), which is thrown in integer division when the divisor is 0. For example, attempting to divide 10 by 0 throws a [DivideByZeroException](#) exception.
- [NotFiniteNumberException](#), which is thrown when an operation is performed on or returns [Double.NaN](#), [Double.NegativeInfinity](#), [Double.PositiveInfinity](#), [Single.NaN](#), [Single.NegativeInfinity](#), [Single.PositiveInfinity](#), and the programming language used does not support those values.
- [OverflowException](#), which is thrown when the result of an operation is outside the bounds of the target data type. That is, it is less than a number's `MinValue` property or greater than its `MaxValue` property. For example, attempting to assign 200 + 200 to a [Byte](#) value throws an [OverflowException](#) exception, since 400 is greater than 256, the upper bound of the [Byte](#) data type.

Your code should not handle or throw this exception. Instead, you should either handle or throw one of its derived classes, since it more precisely indicates the exact nature of the error.

For a list of initial property values for an instance of [ArithmeticException](#), see the [ArithmeticException](#) constructors.

[ArithmeticException](#) uses the HRESULT COR_E_ARITHMETIC, which has the value 0x80070216.

Constructors

 Expand table

Name	Description
ArithmetiException()	Initializes a new instance of the ArithmetiException class.
ArithmetiException(SerializationInfo, StreamingContext)	Obsolete. Initializes a new instance of the ArithmetiException class with serialized data.
ArithmetiException(String, Exception)	Initializes a new instance of the ArithmetiException class with a specified error message and a reference to the inner exception that is the cause of this exception.
ArithmetiException(String)	Initializes a new instance of the ArithmetiException class with a specified error message.

Properties

 Expand table

Name	Description
Data	Gets a collection of key/value pairs that provide additional user-defined information about the exception. (Inherited from Exception)
HelpLink	Gets or sets a link to the help file associated with this exception. (Inherited from Exception)
HResult	Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception. (Inherited from Exception)
InnerException	Gets the Exception instance that caused the current exception. (Inherited from Exception)
Message	Gets a message that describes the current exception. (Inherited from Exception)
Source	Gets or sets the name of the application or the object that causes the error. (Inherited from Exception)
StackTrace	Gets a string representation of the immediate frames on the call stack. (Inherited from Exception)
TargetSite	Gets the method that throws the current exception. (Inherited from Exception)

Methods

[] Expand table

Name	Description
Equals(Object)	Determines whether the specified object is equal to the current object. (Inherited from Object)
GetBaseException()	When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions. (Inherited from Exception)
GetHashCode()	Serves as the default hash function. (Inherited from Object)
GetObjectData(SerializationInfo, StreamingContext)	Obsolete. When overridden in a derived class, sets the SerializationInfo with information about the exception. (Inherited from Exception)
GetType()	Gets the runtime type of the current instance. (Inherited from Exception)
MemberwiseClone()	Creates a shallow copy of the current Object . (Inherited from Object)
ToString()	Creates and returns a string representation of the current exception. (Inherited from Exception)

Events

[] Expand table

Name	Description
SerializeObjectState	Obsolete. Occurs when an exception is serialized to create an exception state object that contains serialized data about the exception. (Inherited from Exception)

Applies to

Product	Versions
.NET	Core 1.0, Core 1.1, Core 2.0, Core 2.1, Core 2.2, Core 3.0, Core 3.1, 5, 6, 7, 8, 9, 10
.NET Framework	1.1, 2.0, 3.0, 3.5, 4.0, 4.5, 4.5.1, 4.5.2, 4.6, 4.6.1, 4.6.2, 4.7, 4.7.1, 4.7.2, 4.8, 4.8.1

Product	Versions
.NET Standard	1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.0, 2.1
UWP	10.0

See also

- [Exception](#)
- [Handling and throwing exceptions in .NET](#)