

System.Text.ASCIIEncoding Class

```
[ILAsm]
.class public serializable ASCIIEncoding extends
System.Text.Encoding

[C#]
public class ASCIIEncoding: Encoding
```

Assembly Info:

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

Summary

Represents an ASCII character implementation of `System.Text.Encoding`.

Inherits From: System.Text.Encoding

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

`System.Text.ASCIIEncoding` encodes characters as single 7-bit ASCII characters. This encoding supports Unicode code points between U+0000 and U+007F, inclusive.

[*Note:* The limited range of code points supported by `System.Text.ASCIIEncoding` makes ASCII inadequate for many internationalized applications. `System.Text.UTF8Encoding` and `System.Text.UnicodeEncoding` provide encodings that are more suitable for internationalized applications.]

ASCIIEncoding() Constructor

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

```
[C#]  
public ASCIIEncoding()
```

Summary

Constructs a new instance of the `System.Text.ASCIIEncoding` class.

ASCIIEncoding.GetByteCount(System.Char[], System.Int32, System.Int32) Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetByteCount(class  
System.Char[] chars, int32 index, int32 count)  
  
[C#]  
public override int GetByteCount(char[] chars, int index, int count)
```

Summary

Determines the exact number of bytes required to encode the specified range of the specified array of characters as ASCII-encoded characters.

Parameters

Parameter	Description
<i>chars</i>	A <code>System.Char</code> array containing the characters to encode as ASCII-encoded characters.
<i>index</i>	A <code>System.Int32</code> that specifies the first index of <i>chars</i> to encode.
<i>count</i>	A <code>System.Int32</code> that specifies the number of elements in <i>chars</i> to encode.

Return Value

A `System.Int32` containing the number of bytes required to encode the range in *chars* from *index* to *index* + *count* - 1 as ASCII-encoded characters.

Description

[*Note:* This method overrides `System.Text.Encoding.GetByteCount.`]

Exceptions

Exception	Condition
<code>System.ArgumentNullException</code>	<i>chars</i> is null.
<code>System.ArgumentOutOfRangeException</code>	<i>index</i> < 0.
	-or-

count < 0.

-or-

index and *count* do not specify a valid range in *chars* (i.e. (*index* + *count* - 1) > *chars.Length*).

ASCIIEncoding.GetByteCount(System.String) Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetByteCount(string chars)  
  
[C#]  
public override int GetByteCount(string chars)
```

Summary

Determines the exact number of bytes required to encode the specified string as ASCII-encoded characters.

Parameters

Parameter	Description
<i>chars</i>	A <i>System.String</i> to encode as ASCII-encoded characters.

Return Value

A *System.Int32* containing the number of bytes required to encode *chars* as ASCII-encoded characters.

Description

[*Note:* This method overrides *System.Text.Encoding.GetByteCount.*]

Exceptions

Exception	Condition
<i>System.ArgumentNullException</i>	<i>chars</i> is null.

ASCII Encoding.GetBytes(System.String, System.Int32, System.Int32, System.Byte[], System.Int32) Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetBytes(string chars, int32  
charIndex, int32 charCount, class System.Byte[] bytes, int32  
byteIndex)
```

```
[C#]  
public override int GetBytes(string chars, int charIndex, int  
charCount, byte[] bytes, int byteIndex)
```

Summary

Encodes the specified range of the specified string into the specified range of the specified array of bytes as ASCII-encoded characters.

Parameters

Parameter	Description
<i>chars</i>	A <code>System.String</code> to encode as ASCII-encoded characters.
<i>charIndex</i>	A <code>System.Int32</code> that specifies the first index of <i>chars</i> from which to encode.
<i>charCount</i>	A <code>System.Int32</code> that specifies the number of elements in <i>chars</i> to encode.
<i>bytes</i>	A <code>System.Byte</code> array to encode.
<i>byteIndex</i>	A <code>System.Int32</code> that specifies the first index of <i>bytes</i> to encode into.

Return Value

A `System.Int32` whose value equals the number of bytes encoded into *bytes* as ASCII-encoded characters.

Description

Every `System.Char` object in *chars* that is encoded into *bytes* and that does not have an ASCII equivalent (i.e. has a code point greater than U+007f) will be encoded as a question mark ('?').

[*Note:* This method overrides `System.Text.Encoding.GetBytes`.]

Exceptions

Exception	Condition
System.ArgumentException	$(bytes.Length - byteIndex) < charCount$.
System.ArgumentNullException	$chars$ is null. -or- $bytes$ is null.
System.ArgumentOutOfRangeException	$charIndex < 0$. -or- $charCount < 0$. -or- $(chars.Length - charIndex) < charCount$. -or- $byteIndex < 0$. -or- $byteIndex \geq bytes.Length$.

ASCII Encoding.GetBytes(System.Char[], System.Int32, System.Int32, System.Byte[], System.Int32) Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetBytes(class System.Char[]  
chars, int32 charIndex, int32 charCount, class System.Byte[] bytes,  
int32 byteIndex)
```

```
[C#]  
public override int GetBytes(char[] chars, int charIndex, int  
charCount, byte[] bytes, int byteIndex)
```

Summary

Encodes the specified range of the specified array of characters into the specified range of the specified array of bytes as ASCII-encoded characters.

Parameters

Parameter	Description
<i>chars</i>	A <code>System.Char</code> array containing the characters to encode as ASCII-encoded characters.
<i>charIndex</i>	A <code>System.Int32</code> that specifies the first index of <i>chars</i> to encode.
<i>charCount</i>	A <code>System.Int32</code> that specifies the number of elements in <i>chars</i> to encode.
<i>bytes</i>	A <code>System.Byte</code> array to encode.
<i>byteIndex</i>	A <code>System.Int32</code> that specifies the first index of <i>bytes</i> to encode into.

Return Value

A `System.Int32` whose value equals the number of bytes encoded into *bytes* as ASCII-encoded characters.

Description

Every `System.Char` object in *chars* that is encoded into *bytes* and that does not have an ASCII equivalent (i.e. has a code point greater than U+007f) will be encoded as a question mark ('?').

[*Note:* This method overrides `System.Text.Encoding.GetBytes.`]

Exceptions

Exception	Condition
System.ArgumentException	$(bytes.Length - byteIndex) < charCount$.
System.ArgumentNullException	$chars$ is null. -or- $bytes$ is null.
System.ArgumentOutOfRangeException	$charIndex < 0$. -or- $charCount < 0$. -or- $(chars.Length - charIndex) < charCount$. -or- $byteIndex < 0$. -or- $byteIndex > bytes.Length$.

ASCIIEncoding.GetCharCount(System.Byte[], System.Int32, System.Int32) Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetCharCount(class  
System.Byte[] bytes, int32 index, int32 count)  
  
[C#]  
public override int GetCharCount(byte[] bytes, int index, int count)
```

Summary

Determines the exact number of characters that will be produced by decoding the specified range of the specified array of bytes as ASCII-encoded characters.

Parameters

Parameter	Description
<i>bytes</i>	A <code>System.Byte</code> array to decode as ASCII-encoded characters.
<i>index</i>	A <code>System.Int32</code> that specifies the first index in <i>bytes</i> to decode.
<i>count</i>	A <code>System.Int32</code> that specifies the number elements in <i>bytes</i> to decode.

Return Value

A `System.Int32` whose value equals the number of characters a call to `System.Text.ASCIIEncoding.GetChars` will produce if presented with the specified range of *bytes*.

[*Note:* This value does not take into account the state in which the current instance was left following the last call to `System.Text.ASCIIEncoding.GetChars`. This contrasts with `System.Text.Decoder.GetChars`, which maintains state information across calls.]

Description

[*Note:* This method overrides `System.Text.Encoding.GetCharCount`.]

Exceptions

Exception	Condition
System.ArgumentNullException	<i>bytes</i> is null.
System.ArgumentOutOfRangeException	<i>index</i> < 0.
	-or-
	<i>count</i> < 0.
	-or-
	$(bytes.Length - index) < count$.

ASCIIEncoding.GetChars(System.Byte[], System.Int32, System.Int32, System.Char[], System.Int32) Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetChars(class System.Byte[]  
bytes, int32 byteIndex, int32 byteCount, class System.Char[] chars,  
int32 charIndex)
```

```
[C#]  
public override int GetChars(byte[] bytes, int byteIndex, int  
byteCount, char[] chars, int charIndex)
```

Summary

Decodes the specified range of the specified array of bytes into the specified range of the specified array of characters as ASCII-encoded characters.

Parameters

Parameter	Description
<i>bytes</i>	A <code>System.Byte</code> array to decode as ASCII-encoded characters.
<i>byteIndex</i>	A <code>System.Int32</code> that specifies the first index of <i>bytes</i> from which to decode.
<i>byteCount</i>	A <code>System.Int32</code> that specifies the number elements in <i>bytes</i> to decode.
<i>chars</i>	A <code>System.Char</code> array of characters to decode into.
<i>charIndex</i>	A <code>System.Int32</code> that specifies the first index of <i>chars</i> to store the decoded bytes.

Return Value

A `System.Int32` whose value equals the number of characters decoded into *chars* as ASCII-encoded characters.

Description

[*Note:* This method overrides `System.Text.Encoding.GetChars`.

`System.Text.ASCIIEncoding.GetChars` can be used to determine the exact number of characters that will be produced for a specified range of bytes. Alternatively, the `System.Text.ASCIIEncoding.GetMaxCharCount` method can be used to determine the maximum number of characters that will be produced for a specified number of bytes, regardless of the actual byte values.

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Exceptions

Exception	Condition
System.ArgumentException	$(chars.Length - charIndex) < byteCount$.
System.ArgumentNullException	$bytes$ is null. -or- $chars$ is null.
System.ArgumentOutOfRangeException	$byteIndex < 0$. -or- $byteCount < 0$. -or- $(bytes.Length - byteIndex) < byteCount$. -or- $charIndex < 0$. -or- $charIndex > chars.Length$.

ASCIIEncoding.GetMaxByteCount(System.Int32) Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetMaxByteCount(int32  
charCount)
```

```
[C#]  
public override int GetMaxByteCount(int charCount)
```

Summary

Returns the maximum number of bytes required to encode the specified number of characters as ASCII-encoded characters, regardless of the actual character values.

Parameters

Parameter	Description
<i>charCount</i>	A <code>System.Int32</code> that specifies the number of characters to encode as ASCII-encoded characters.

Return Value

A `System.Int32` containing the maximum number of bytes required to encode *charCount* characters as ASCII-encoded characters.

Description

[*Note:* This method overrides `System.Text.Encoding.GetMaxByteCount`.

Use this method to determine a minimum buffer size for byte arrays passed to the `System.Text.ASCIIEncoding.GetBytes` or `System.Text.Encoding.GetBytes` method for the current instance. Using this minimum buffer size can help ensure that buffer overflow exceptions do not occur.

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Exceptions

Exception	Condition
<code>System.ArgumentOutOfRangeException</code>	<i>charCount</i> < 0.

ASCIIEncoding.GetMaxCharCount(System.Int32) Method

```
[ILAsm]  
.method public hidebysig virtual int32 GetMaxCharCount(int32  
byteCount)  
  
[C#]  
public override int GetMaxCharCount(int byteCount)
```

Summary

Gets the maximum number of characters produced by decoding a specified number of bytes as ASCII-encoded characters, regardless of the actual byte values.

Parameters

Parameter	Description
<i>byteCount</i>	A <code>System.Int32</code> that specifies the number of bytes to decode as ASCII-encoded characters.

Return Value

A `System.Int32` containing the maximum number of characters that would be produced by decoding *byteCount* bytes as ASCII-encoded characters.

Description

[*Note:* This method overrides `System.Text.Encoding.GetMaxCharCount`.

Use this method to determine the minimum buffer size for character arrays passed to the `System.Text.ASCIIEncoding.GetChars` or the `System.Text.Encoding.GetChars` methods. Using this minimum buffer size can help ensure that buffer overflow exceptions do not occur.

]

Exceptions

Exception	Condition
<code>System.ArgumentOutOfRangeException</code>	<i>byteCount</i> < 0.

ASCIIEncoding.GetString(System.Byte[], System.Int32, System.Int32) Method

```
[ILAsm]
.method public hidebysig virtual string GetString(class
System.Byte[] bytes, int32 byteIndex, int32 byteCount)

[C#]
public override string GetString(byte[] bytes, int byteIndex, int
byteCount)
```

Summary

Decodes the specified range of the specified array of bytes as a string of ASCII-encoded characters.

Parameters

Parameter	Description
<i>bytes</i>	A <code>System.Byte</code> array to decode as ASCII-encoded characters.
<i>byteIndex</i>	A <code>System.Int32</code> that specifies the first index of <i>bytes</i> from which to decode.
<i>byteCount</i>	A <code>System.Int32</code> that specifies the number of elements in <i>bytes</i> to decode.

Return Value

A `System.String` object containing the decoded representation of the range in *bytes* from *byteIndex* to *byteIndex* + *byteCount* - 1 as ASCII-encoded characters.

Description

[*Note:* This method overrides `System.Text.Encoding.GetString`.]

Exceptions

Exception	Condition
<code>System.ArgumentNullException</code>	<i>bytes</i> is null.
<code>System.ArgumentOutOfRangeException</code>	<i>byteIndex</i> < 0.

-or-

byteCount < 0.

-or-

(bytes.Length - byteIndex) < byteCount.

ASCII Encoding.GetString(System.Byte[]) Method

```
[ILAsm]
.method public hidebysig virtual string GetString(class
System.Byte[] bytes)

[C#]
public override string GetString(byte[] bytes)
```

Summary

Decodes the specified array of bytes as a string of ASCII-encoded characters.

Parameters

Parameter	Description
<i>bytes</i>	A <code>System.Byte</code> array to decode as ASCII-encoded characters.

Return Value

A `System.String` containing the decoded representation of *bytes* as ASCII-encoded characters.

Description

[*Note:* This method overrides `System.Text.Encoding.GetString`.]

Exceptions

Exception	Condition
<code>System.ArgumentNullException</code>	<i>bytes</i> is null.