

# 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- <i>count</i> < 0.

*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.

# ASCIIEncoding.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
<b>System.ArgumentException</b>	$(bytes.Length - byteIndex) < charCount$ .
<b>System.ArgumentNullException</b>	$chars$ is null. -or- $bytes$ is null.
<b>System.ArgumentOutOfRangeException</b>	$charIndex < 0$ . -or- $charCount < 0$ . -or- $(chars.Length - charIndex) < charCount$ . -or- $byteIndex < 0$ . -or- $byteIndex \geq bytes.Length$ .

# ASCIIEncoding.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
<b>System.ArgumentException</b>	$(bytes.Length - byteIndex) < charCount$ .
<b>System.ArgumentNullException</b>	$chars$ is null. -or- $bytes$ is null.
<b>System.ArgumentOutOfRangeException</b>	$charIndex < 0$ . -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
<b>System.ArgumentNullException</b>	<i>bytes</i> is null.
<b>System.ArgumentOutOfRangeException</b>	<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.

]

## Exceptions

Exception	Condition
<b>System.ArgumentException</b>	$(chars.Length - charIndex) < byteCount$ .
<b>System.ArgumentNullException</b>	$bytes$ is null. -or- $chars$ is null.
<b>System.ArgumentOutOfRangeException</b>	$byteIndex < 0$ . -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 System.Int32 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.

]

## Exceptions

Exception	Condition
System.ArgumentOutOfRangeException	<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.

	<p>-or-</p> <p><i>byteCount</i> &lt; 0.</p> <p>-or-</p> <p>(<i>bytes.Length</i> - <i>byteIndex</i>) &lt; <i>byteCount</i>.</p>
--	--

# ASCIIEncoding.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 <i>System.Byte</i> 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
<i>System.ArgumentNullException</i>	<i>bytes</i> is null.