

## HTML Encoding (Character Sets)

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To display an HTML page correctly, a web browser must know which character set (character encoding) to use.

### What is Character Encoding?

ASCII was the first **character encoding standard** (also called character set). ASCII defined 128 different alphanumeric characters that could be used on the internet: numbers (0-9), English letters (A-Z), and some special characters like ! \$ + - ( ) @ < > .

ISO-8859-1 was the default character set for HTML 4. This character set also supported 256 different character codes.

ANSI (Windows-1252) was the original Windows character set. ANSI is identical to ISO-8859-1, except that ANSI has 32 extra characters.

Because ANSI and ISO-8859-1 were so limited, HTML 4 also supported UTF-8.

UTF-8 (Unicode) covers almost all of the characters and symbols in the world.

The default character encoding for HTML5 is UTF-8.

### The HTML charset Attribute

To display an HTML page correctly, a web browser must know the character set used in the page.

This is specified in the `<meta>` tag:

For HTML4:

```
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
```

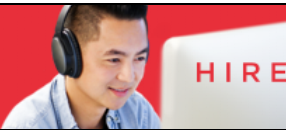
For HTML5:

```
<meta charset="UTF-8">
```

If a browser detects ISO-8859-1 in a web page, it defaults to ANSI.

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## Differences Between Character Sets

The following table displays the differences between the character sets described above:

Numb	ASCII	ANSI	8859	UTF-8	Description
32					space
33	!	!	!	!	exclamation mark
34	"	"	"	"	quotation mark
35	#	#	#	#	number sign
36	\$	\$	\$	\$	dollar sign
37	%	%	%	%	percent sign
38	&	&	&	&	ampersand
39	'	'	'	'	apostrophe
40	(	(	(	(	left parenthesis
41	)	)	)	)	right parenthesis
42	*	*	*	*	asterisk
43	+	+	+	+	plus sign
44	,	,	,	,	comma
45	-	-	-	-	hyphen-minus
46	.	.	.	.	full stop
47	/	/	/	/	solidus
48	0	0	0	0	digit zero
49	1	1	1	1	digit one
50	2	2	2	2	digit two
51	3	3	3	3	digit three

52	4	4	4	4	digit four
53	5	5	5	5	digit five
54	6	6	6	6	digit six
55	7	7	7	7	digit seven
56	8	8	8	8	digit eight
57	9	9	9	9	digit nine
58	:	:	:	:	colon
59	;	;	;	;	semicolon
60	<	<	<	<	less-than sign
61	=	=	=	=	equals sign
62	>	>	>	>	greater-than sign
63	?	?	?	?	question mark
64	@	@	@	@	commercial at
65	A	A	A	A	Latin capital letter A
66	B	B	B	B	Latin capital letter B
67	C	C	C	C	Latin capital letter C
68	D	D	D	D	Latin capital letter D
69	E	E	E	E	Latin capital letter E
70	F	F	F	F	Latin capital letter F
71	G	G	G	G	Latin capital letter G
72	H	H	H	H	Latin capital letter H
73	I	I	I	I	Latin capital letter I
74	J	J	J	J	Latin capital letter J
75	K	K	K	K	Latin capital letter K
76	L	L	L	L	Latin capital letter L
77	M	M	M	M	Latin capital letter M
78	N	N	N	N	Latin capital letter N
79	O	O	O	O	Latin capital letter O
80	P	P	P	P	Latin capital letter P
81	Q	Q	Q	Q	Latin capital letter Q
82	R	R	R	R	Latin capital letter R

83	S	S	S	S	Latin capital letter S
84	T	T	T	T	Latin capital letter T
85	U	U	U	U	Latin capital letter U
86	V	V	V	V	Latin capital letter V
87	W	W	W	W	Latin capital letter W
88	X	X	X	X	Latin capital letter X
89	Y	Y	Y	Y	Latin capital letter Y
90	Z	Z	Z	Z	Latin capital letter Z
91	[	[	[	[	left square bracket
92	\	\	\	\	reverse solidus
93	]	]	]	]	right square bracket
94	^	^	^	^	circumflex accent
95	_	_	_	_	low line
96	`	`	`	`	grave accent
97	a	a	a	a	Latin small letter a
98	b	b	b	b	Latin small letter b
99	c	c	c	c	Latin small letter c
100	d	d	d	d	Latin small letter d
101	e	e	e	e	Latin small letter e
102	f	f	f	f	Latin small letter f
103	g	g	g	g	Latin small letter g
104	h	h	h	h	Latin small letter h
105	i	i	i	i	Latin small letter i
106	j	j	j	j	Latin small letter j
107	k	k	k	k	Latin small letter k
108	l	l	l	l	Latin small letter l
109	m	m	m	m	Latin small letter m
110	n	n	n	n	Latin small letter n
111	o	o	o	o	Latin small letter o
112	p	p	p	p	Latin small letter p
113	q	q	q	q	Latin small letter q

114	r	r	r	r	Latin small letter r
115	s	s	s	s	Latin small letter s
116	t	t	t	t	Latin small letter t
117	u	u	u	u	Latin small letter u
118	v	v	v	v	Latin small letter v
119	w	w	w	w	Latin small letter w
120	x	x	x	x	Latin small letter x
121	y	y	y	y	Latin small letter y
122	z	z	z	z	Latin small letter z
123	{	{	{	{	left curly bracket
124					vertical line
125	}	}	}	}	right curly bracket
126	~	~	~	~	tilde
127	DEL				
128	€				euro sign
129					NOT USED
130	,				single low-9 quotation mark
131	f				Latin small letter f with hook
132	„				double low-9 quotation mark
133	...				horizontal ellipsis
134	†				dagger
135	‡				double dagger
136	^				modifier letter circumflex accent
137	‰				per mille sign
138	Š				Latin capital letter S with caron
139	<				single left-pointing angle quotation mark
140	Œ				Latin capital ligature OE
141					NOT USED
142	Ž				Latin capital letter Z with caron
143					NOT USED
144					NOT USED

145	`			left single quotation mark
146	'			right single quotation mark
147	“			left double quotation mark
148	”			right double quotation mark
149	•			bullet
150	–			en dash
151	—			em dash
152	~			small tilde
153	™			trade mark sign
154	š			Latin small letter s with caron
155	>			single right-pointing angle quotation mark
156	œ			Latin small ligature oe
157				NOT USED
158	ž			Latin small letter z with caron
159	ÿ			Latin capital letter Y with diaeresis
160				no-break space
161	¡	¡	¡	inverted exclamation mark
162	¢	¢	¢	cent sign
163	£	£	£	pound sign
164	¤	¤	¤	currency sign
165	¥	¥	¥	yen sign
166				broken bar
167	§	§	§	section sign
168	¨	¨	¨	diaeresis
169	©	©	©	copyright sign
170	ª	ª	ª	feminine ordinal indicator
171	«	«	«	left-pointing double angle quotation mark
172	¬	¬	¬	not sign
173				soft hyphen
174	®	®	®	registered sign
175	—	—	—	macron

176	°	°	°	degree sign
177	±	±	±	plus-minus sign
178	²	²	²	superscript two
179	³	³	³	superscript three
180	´	´	´	acute accent
181	μ	μ	μ	micro sign
182	¶	¶	¶	pilcrow sign
183	·	·	·	middle dot
184	¸	¸	¸	cedilla
185	¹	¹	¹	superscript one
186	º	º	º	masculine ordinal indicator
187	»	»	»	right-pointing double angle quotation mark
188	¼	¼	¼	vulgar fraction one quarter
189	½	½	½	vulgar fraction one half
190	¾	¾	¾	vulgar fraction three quarters
191	¿	¿	¿	inverted question mark
192	À	À	À	Latin capital letter A with grave
193	Á	Á	Á	Latin capital letter A with acute
194	Â	Â	Â	Latin capital letter A with circumflex
195	Ã	Ã	Ã	Latin capital letter A with tilde
196	Ä	Ä	Ä	Latin capital letter A with diaeresis
197	Å	Å	Å	Latin capital letter A with ring above
198	Æ	Æ	Æ	Latin capital letter AE
199	Ç	Ç	Ç	Latin capital letter C with cedilla
200	È	È	È	Latin capital letter E with grave
201	É	É	É	Latin capital letter E with acute
202	Ê	Ê	Ê	Latin capital letter E with circumflex
203	Ë	Ë	Ë	Latin capital letter E with diaeresis
204	Ì	Ì	Ì	Latin capital letter I with grave
205	Í	Í	Í	Latin capital letter I with acute
206	Î	Î	Î	Latin capital letter I with circumflex

207	İ	İ	İ	Latin capital letter I with diaeresis
208	Ð	Ð	Ð	Latin capital letter Eth
209	Ñ	Ñ	Ñ	Latin capital letter N with tilde
210	Ò	Ò	Ò	Latin capital letter O with grave
211	Ó	Ó	Ó	Latin capital letter O with acute
212	Ô	Ô	Ô	Latin capital letter O with circumflex
213	Õ	Õ	Õ	Latin capital letter O with tilde
214	Ö	Ö	Ö	Latin capital letter O with diaeresis
215	×	×	×	multiplication sign
216	Ø	Ø	Ø	Latin capital letter O with stroke
217	Ù	Ù	Ù	Latin capital letter U with grave
218	Ú	Ú	Ú	Latin capital letter U with acute
219	Û	Û	Û	Latin capital letter U with circumflex
220	Ü	Ü	Ü	Latin capital letter U with diaeresis
221	Ý	Ý	Ý	Latin capital letter Y with acute
222	Þ	Þ	Þ	Latin capital letter Thorn
223	ß	ß	ß	Latin small letter sharp s
224	à	à	à	Latin small letter a with grave
225	á	á	á	Latin small letter a with acute
226	â	â	â	Latin small letter a with circumflex
227	ã	ã	ã	Latin small letter a with tilde
228	ä	ä	ä	Latin small letter a with diaeresis
229	å	å	å	Latin small letter a with ring above
230	æ	æ	æ	Latin small letter ae
231	ç	ç	ç	Latin small letter c with cedilla
232	è	è	è	Latin small letter e with grave
233	é	é	é	Latin small letter e with acute
234	ê	ê	ê	Latin small letter e with circumflex
235	ë	ë	ë	Latin small letter e with diaeresis
236	ì	ì	ì	Latin small letter i with grave
237	í	í	í	Latin small letter i with acute



238	î	î	î	Latin small letter i with circumflex
239	ï	ï	ï	Latin small letter i with diaeresis
240	ð	ð	ð	Latin small letter eth
241	ñ	ñ	ñ	Latin small letter n with tilde
242	ò	ò	ò	Latin small letter o with grave
243	ó	ó	ó	Latin small letter o with acute
244	ô	ô	ô	Latin small letter o with circumflex
245	õ	õ	õ	Latin small letter o with tilde
246	ö	ö	ö	Latin small letter o with diaeresis
247	÷	÷	÷	division sign
248	ø	ø	ø	Latin small letter o with stroke
249	ù	ù	ù	Latin small letter u with grave
250	ú	ú	ú	Latin small letter u with acute
251	û	û	û	Latin small letter with circumflex
252	ü	ü	ü	Latin small letter u with diaeresis
253	ý	ý	ý	Latin small letter y with acute
254	þ	þ	þ	Latin small letter thorn
255	ÿ	ÿ	ÿ	Latin small letter y with diaeresis

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## The ASCII Character Set

ASCII uses the values from 0 to 31 (and 127) for control characters.

ASCII uses the values from 32 to 126 for letters, digits, and symbols.

ASCII does not use the values from 128 to 255.

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## The ANSI Character Set (Windows-1252)

ANSI is identical to ASCII for the values from 0 to 127.

ANSI has a proprietary set of characters for the values from 128 to 159.

ANSI is identical to UTF-8 for the values from 160 to 255.

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## The ISO-8859-1 Character Set

8859-1 is identical to ASCII for the values from 0 to 127.

8859-1 does not use the values from 128 to 159.

8859-1 is identical to UTF-8 for the values from 160 to 255.

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## The UTF-8 Character Set

UTF-8 is identical to ASCII for the values from 0 to 127.

UTF-8 does not use the values from 128 to 159.

UTF-8 is identical to both ANSI and 8859-1 for the values from 160 to 255.

UTF-8 continues from the value 256 with more than 10 000 different characters.

For a closer look, study our [Complete HTML Character Set Reference](#).

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## The @charset CSS Rule

You can use the CSS `@charset` rule to specify the character encoding used in a style sheet:

### Example

Set the encoding of the style sheet to Unicode UTF-8:

```
@charset "UTF-8";
```

Read more about the [CSS @charset Rule](#) in our [CSS Reference](#).

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