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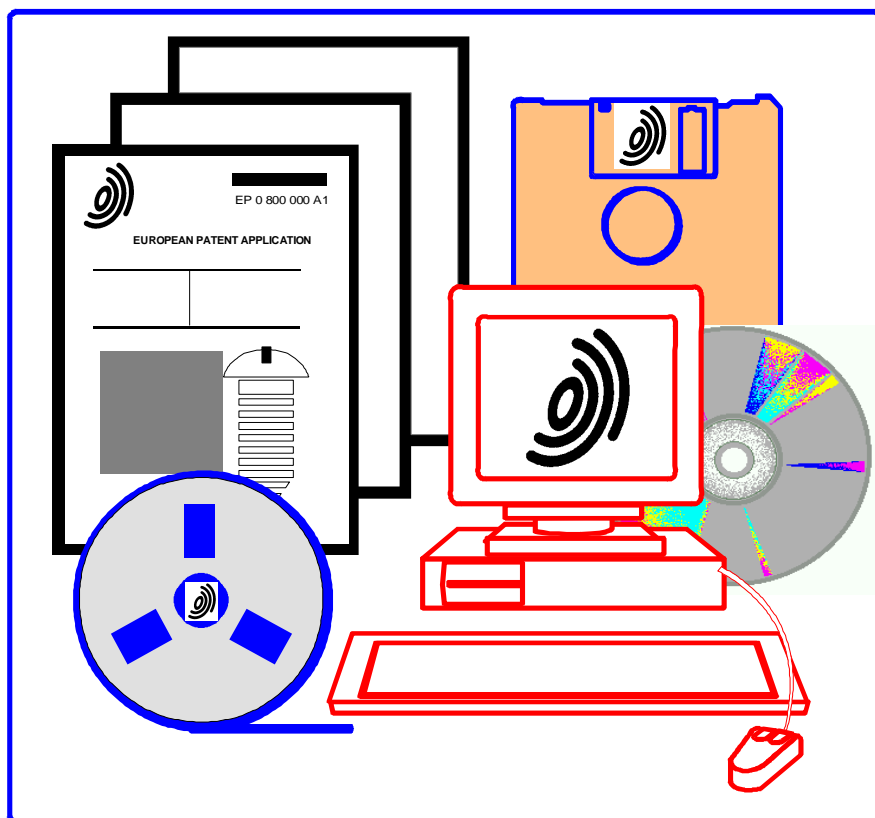


EPO Publications I: Standards

Character set & entity references

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SGML



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EPO CHARACTER SET AND ENTITY REFERENCES

Introduction

One of the most common problems in data transfer between computer systems, which may be the same or completely different systems, is whether or not they 'speak the same language' at the most basic level - the **character set** level used to encode data. A character set is:

"a set of characters that is handled by a specific machine. The set usually includes the English alphanumeric characters, special characters and operation characters, all of which are graphics characters, and various control characters. Graphic characters thus denote a printed mark or a space while control characters produce some particular effect."

A character set is contained in a **code page**. The simplest code page, which is an international standard, is *ISO 646: 1983 IRV (International Reference Version)*. However, this character set is so basic that to utilise it in an environment such as the EPO would mean the substitution of many characters, such as accented characters, with entity references (explained below).

Probably the most common code page of characters used on computers is **ASCII** (American Standard Code for Information Interchange), which, in its 7-bit version (128 characters), is almost identical with ISO 646. However, when people talk about ASCII they almost always mean **extended ASCII** - an 8 bit character set of 256 characters. This character set is more useful, to the EPO, because it contains, for example, accented characters. The picture is complicated further in that there are different code pages for extended ASCII, especially on IBM compatible PCs. Here the most common are known as code pages **437** and **850**. Code page 850 is used in the EPO because it is multilingual and, therefore, has more accented characters for so-called Swiss-German keyboards; but the commonest code page is probably IBM code page 437. In creating the character set used by the EPO we have taken this fact into account and 'mapped' our base code page to be compliant with ASCII 437 and 850.

Most EPO computer systems and projects process data on the EPO's IBM 9000 series mainframe - one of the code pages on this system is IBM **EBCDIC** (Extended Binary Coded Decimal Interchange Code) **Code Page 500**. This is an internationally recognised code page for EBCDIC. In re-designing the EPO publication system we have decided to use this code page as it is the most convenient to use in the EPO environment (most, if not all, EPO workstations can display and print the characters in this code page).

However, not all the codes on code page 500 are used in the publication systems of the EPO; because, in order to maintain compatibility between EBCDIC codes and IBM ASCII 437/850 codes, code page 500 has been reduced to those codes which have a one-to-one relationship with code pages 437/850. (This means that in a straightforward EBCDIC to ASCII conversion all characters will be converted correctly). These reduced tables are shown below. The **reduced** code page 500 will, therefore, be the basic code page for the character coding of:

- \$ EP A and B patent documents
- \$ EP Bulletin
- \$ Bibliographic data (based on EPASYS data)

Please note: This document refers only to data processed by the **ELPAC** projects and no other projects within the EPO such as EPOQUE, EPASYS, DOCDB, BACON, etc. These projects have their own character sets and formats.

All **DATIMTEX** data (EP applications and specifications) will be converted to this code page - at the end of 1995 this will amount to about 20 Gbytes of data.

Unless specified otherwise EPO contractors **must** return data to the EPO coded according to IBM EBCDIC code page 500 (reduced).

Entity References For Characters

In patent literature, especially, there are many characters and symbols which do not appear in many code pages, including code pages 500 and 437. Greek letters and mathematical symbols are good examples. These cannot, easily, be keyed or seen on a computer screen. An **entity reference**, using a base character set (typically characters from ISO 646), allows a short reference to be constructed, which, on post-processing, for example, allows a unique character to be displayed or printed.

Entity references consist of three parts:

Order	Part	Description
1	&	entity reference open delimiter
2	omega	entity name
3	;	entity reference close delimiter

Entity references are case sensitive therefore for 'omega' we have two references:

Ω	&Omega;	Capital omega, Greek
ω	&omega;	Small omega, Greek

In many cases, as in the example above, it will be clear from the entity reference name what the character should be. Details of all entity references, contained in an **entity set**, used in a document instance (a patent) must be referenced in the DTD ((Document Type Definition). The EPO entity set conforms to WIPO Standard ST.32, which contains the DTD for patent documents. However, the WIPO ST.32 DTD references all current ISO character entity references but these are not all used by the EPO, by any means. Therefore, any DTD validating EPO patent documents must reference only one character entity set - EPOPAT:ENT, for example - which contains a combination of ISO entities and all entities referenced in the 'patspat.ent' file. The EPO entity set is shown in the tables below and also together with other entity sets in Annexes 2 and 3

If a character is NOT in reduced code page 500 or in the EPO character entity set two options are open to EPO publication contractors:

1. Create a new entity reference, **after consultation with the EPO**, which may be added to the EPO entity set. Wherever possible these new entity references must be based on ISO entity references.
2. If all else fails, and the 'character' is thought to be a 'one-off', the publication contractors may capture the character as an embedded image according to WIPO standard ST.32. This will always be the type 'FF' - undefined character, eg.:

<EMI ID='3.1' HE=4 W=4 TI=FF>

Further details can be found in the "*Rules for Contractors*" and WIPO ST.32.

Please note:

It is the responsibility of EPO contractors, and others receiving EPO data, to make sure that all entity references are interpreted correctly according to this document. To create a complete font set covering all EPO entity references (in bold, italic, superscript and subscript - as well as 'normal' text) is not a trivial task and careful attention should be paid to this area. We have created test data sets to check this and these are available on request.

Character Set

On the following page are printed two code page tables, the first showing the reduced code page 500 and the second their ASCII equivalents from IBM code page 437/850 (which is also reduced since there is not a one to one relationship between the two code pages). (For reference purposes the complete set of EBCDIC characters contained in Code Page 500 are shown in Annex 1).

Following the tables is a description of each code together with its graphical representation.

All other characters NOT in the code pages below are to be coded as entity references.

IBM EBCDIC Code Page 500 (Reduced)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0					SP	&	-			°	μ		{	}	\	0
1						é	/	É	a	j	~	£	A	J	÷	1
2					â	ê			b	k	s		B	K	S	2
3					ä	ë	Ä		c	l	t	.	C	L	T	3
4					à	è			d	m	u		D	M	U	4
5					á				e	n	v		E	N	V	5
6						î			f	o	w		F	O	W	6
7					å	ï	Å		g	p	x	¼	G	P	X	7
8					ç	ì	Ç		h	q	y	½	H	Q	Y	8
9					ñ		Ñ	`	i	r	z		I	R	Z	9
A					[]		:	«		¡	¬			²	
B					.	\$,	#	»		¿		ô	û		
C					<	*	%	@		æ			ö	ü	Ö	Ü
D					()	_	'					ò	ù		
E					+	;	>	=		Æ						
F					!	^	?	"	±					ÿ		

ASCII (IBM) Code Page 437/850 (Reduced)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			SP	0	@	P	`	p	Ç	É	á					
1			!	1	A	Q	a	q	ü	æ						±
2			"	2	B	R	b	r	é	Æ						
3			#	3	C	S	c	s	â	ô						
4			\$	4	D	T	d	t	ä	ö	ñ					
5			%	5	E	U	e	u	à	ò	Ñ					
6			&	6	F	V	f	v	å	û					μ	÷
7			'	7	G	W	g	w	ç	ù						
8			(8	H	X	h	x	ê	ÿ	¿					°
9)	9	I	Y	i	y	ë	Ö						
A			*	:	J	Z	j	z	è	Ü	¬					.
B			+	;	K	[k	{	ï		½					
C			,	<	L	\	l		î	£	¼					
D			-	=	M]	m	}	ì		¡					²
E			.	>	N	^	n	~	Ä		«					
F			/	?	O	_	o		Å		»					

Note: The characters in columns 2-7 are ISO 646 compatible.

Character Set Description

Char.	EBCDIC 500	ASCII 437/850	Description
NP	0C		New page control code
CR	0D		Carriage return control code
NL	15		New line control code
ESC	27		Escape control code
SP	40	20	Space
â	42	83	Small a circumflex
ä	43	84	Small a umlaut
à	44	85	Small a grave
á	45	A0	Small a acute
å	47	86	Small a over circle
ç	48	87	Small c cedilla
ñ	49	A4	Small n tilde
[4A	5B	Open square bracket
.	4B	2E	Period
<	4C	3C	Less-than sign
(4D	28	Left
+	4E	2B	Plus
!	4F	21	Exclamation mark
&	50	26	Ampersand
é	51	82	Small e acute
ê	52	88	Small e circumflex
ë	53	89	Small e umlaut
è	54	8A	Small e grave
î	56	8C	Small i circumflex
ï	57	8B	Small i umlaut
ì	58	8D	Small i grave
]	5A	5D	Close square bracket
\$	5B	24	Dollar
*	5C	2A	Asterisk
)	5D	29	Right, close parenthesis
;	5E	3B	Semicolon
^	5F	5E	Circumflex
-	60	2D	Hyphen
/	61	2F	Solidus
Ä	63	8E	Capital A umlaut
Å	67	8F	Capital A over circle
Ç	68	80	Capital C cedilla
Ñ	69	A5	Capital N tilde

Char.	EBCDIC 500	ASCII 437/850	Description
,	6B	2C	Comma
%	6C	25	Percent
_	6D	5F	Underscore
>	6E	3E	Greater than
?	6F	3F	Question mark
É	71	90	Capital E acute
`	79	60	Grave
:	7A	3A	Colon
#	7B	23	Numeral sign
@	7C	40	Commercial at
'	7D	27	Apostrophe
=	7E	3D	Equals
"	7F	22	Quotation
a	81	61	Small a
b	82	62	Small b
c	83	63	Small c
d	84	64	Small d
e	85	65	Small e
f	86	66	Small f
g	87	67	Small g
h	88	68	Small h
i	89	69	Small i
«	8A	AE	Much less than
»	8B	AF	Much greater than
±	8F	F1	Plus minus
°	90	F8	Degree
j	91	6A	Small j
k	92	6B	Small k
l	93	6C	Small l
m	94	6D	Small m
n	95	6E	Small n
o	96	6F	Small o
p	97	70	Small p
q	98	71	Small q
r	99	72	Small r
æ	9C	91	Small dipthong
Æ	9E	92	Capital dipthong
μ	A0	E6	Small Greek mu
~	A1	7E	Tilde
s	A2	73	Small s

Char.	EBCDIC 500	ASCII 437/850	Description
t	A3	74	Small t
u	A4	75	Small u
v	A5	76	Small v
w	A6	77	Small w
x	A7	78	Small x
y	A8	79	Small y
z	A9	7A	Small z
¡	AA	AD	Inverted exclamation mark
¿	AB	A8	Inverted question mark
£	B1	9C	Pound sign
·	B3	FA	Centre dot
¼	B7	AC	Quarter
½	B8	AB	Half
¬	BA	AA	Not sign
	BB	7C	Vertical bar
{	C0	7B	Open curly brace
A	C1	41	Capital A
B	C2	42	Capital B
C	C3	43	Capital C
D	C4	44	Capital D
E	C5	45	Capital E
F	C6	46	Capital F
G	C7	47	Capital G
H	C8	48	Capital H
I	C9	49	Capital I
ô	CB	93	Small o circumflex
ö	CC	94	Small o umlaut
ò	CD	95	Small o grave
}	D0	7D	Close curly brace
J	D1	4A	Capital J
K	D2	4B	Capital K
L	D3	4C	Capital L
M	D4	4D	Capital M
N	D5	4E	Capital N
O	D6	4F	Capital O
P	D7	50	Capital P
Q	D8	51	Capital Q
R	D9	52	Capital R
û	DB	96	Small u circumflex
ü	DC	81	Small u umlaut

Char.	EBCDIC 500	ASCII 437/850	Description
ù	DD	97	Small u grave
ÿ	DF	98	Small y umlaut
\	E0	5C	Back slash
÷	E1	F6	Divide sign
S	E2	53	Capital S
T	E3	54	Capital T
U	E4	55	Capital U
V	E5	56	Capital V
W	E6	57	Capital W
X	E7	58	Capital X
Y	E8	59	Capital Y
Z	E9	5A	Capital Z
²	EA	FD	Superscript 2
Ö	EC	99	Capital O umlaut
0	F0	30	Figure 0
1	F1	31	Figure 1
2	F2	32	Figure 2
3	F3	33	Figure 3
4	F4	34	Figure 4
5	F5	35	Figure 5
6	F6	36	Figure 6
7	F7	37	Figure 7
8	F8	38	Figure 8
9	F9	39	Figure 9
Ü	FC	9A	Capital U umlaut
	FF	FF	Undefined character

Character entity references

As stated in the introduction an entity reference may be used wherever a character is required that is not present in the character code set shown above.

A problem can arise when a character that has been assigned special significance in the SGML declaration, in the reference concrete syntax to be precise, occurs as part of the text. A particular case is where the subject matter contains mathematical expressions in which "less than" (<) and "greater than" (>) signs frequently occur. These are also the start and end characters for SGML tags (according to the declaration in WIPO ST.32). Therefore, within the document instance, when these characters occur they must be entered as entity references; otherwise any data between these characters might be treated as an SGML tag.

Such characters most frequently used in the implementation of SGML markup, in the EPO, are "less than", "greater than" and "ampersand". When encountered in a document as text data they are to be replaced as necessary by the entity references listed below.

Throughout an entire document, except as the start indicator of an entity reference, the 'ampersand' sign is to be coded:

(&) ampersand	&
---------------	-------

Throughout an entire document, except as the delimiters of a generic code, the "less than" and "greater than" signs are to be coded:

(<) less than	<
(>) greater than	>

The fonts used during the composition of the entity reference table below can only give an impression of the final character required for printing. The actual format of the characters may differ on publication. Those entity references with (EPO) following the description have been created by the EPO and are non-ISO entity references. These entity references are contained in the epopat.ent file referenced in the EPO DTD, see also Annexes 2 and 3.

EPO Entity References		
Char	Entity Reference	Description
Á	Á	Capital A acute
Â	Â	Capital A circumflex
´	´	Acute
À	À	Capital A grave
ⴐ	ℵ	Aleph
α	α	Small alpha, Greek
&	&	Ampersand
∧	∧	Logical AND
∠	∠	Angle
∟	&ang90;	Right (90 degree) angle
•	∢	Angle-spherical; spherical angle
≈	&anq;	Approximately but not actually equal to (EPO)
≈	≈	Approximate; asymptotic to
≈	≊	Approximate, equals; asymptotic or equal to
Ã	Ã	Capital A tilde
ã	ã	Small a tilde
∮	∳	Contour integral, anti-clockwise
∴	∵	Because
¾	϶	Such that
β	β	Small beta, Greek
	␣	Blank substitute
◓	┐	Lower left quadrant (boxes only)
◔	┌	Lower right quadrant (boxes only)
◕	┬	Lower left and right quadrants (boxes only)
◖	┴	Upper left and right quadrants (boxes only)
◗	┘	Upper left quadrant (boxes only)
◘	└	Upper right quadrant (boxes only)
◙	┼	All four quadrants (boxes only)
◚	┤	Upper and lower left quadrants (boxes only)
◛	├	Upper and lower right quadrants (boxes only)
∅	¦	Broken vertical bar

EPO Entity References		
Char	Entity Reference	Description
,	•	Round bullet, filled
≈	≎	Bump equals; approximately equivalent; geometrical equivalent to
⌘	≏	Bumpy equals, equal; approximately equal to
∩	∩	Intersection
¸	¸	Cedilla
¢	¢	Cent
χ	χ	Small chi, Greek
○	○	Circle, open
●	&circlef;	Circle, filled
⊂	∁	Complement
◦	∘	Composite function (small circle)
≅	≅	Congruent with; similar to
∮	∮	Contour integral; circuited integral
©	©	Copyright
⌵	⋞	Curly equal precedes
⌶	⋟	Curly equal succeeds
↵	↶	Left curved arrow
∪	∪	Union or logical sum
⊃	&cupre;	Is contained in or equal to
↷	↷	Right curved arrow
¤	¤	International currency sign
∮	∲	Contour integral, clockwise
∲	∱	Clockwise integral
†	†	Dagger
‡	‡	Double dagger
↓	↓	Downward arrow; decreases
Δ	Δ	Capital delta, Greek
δ	δ	Small delta, Greek
◇	⋄	Open diamond
◆	&diamondf;	Diamond, filled
♦	♦	Diamonds suit symbol

EPO Entity References		
Char	Entity Reference	Description
↙	&dlarr;	Downward left-pointing arrow (south-west)
Æ	&dlowbar;	Double underscore (EPO)
·	˙	Superscript dot; dot above
#	¨	Dieresis or umlaut mark; double dot
↘	&drarr;	Downward right-pointing arrow (south-east)
∇	▿	Differential vector operator (down triangle)
▼	▾	Down triangle filled
Ê	Ê	Capital E circumflex
≐	≒	Equals, falling dots; approximately equal to (is the image of)
È	È	Capital E grave
·	&Ehac;	Equals with hacek; equiangular (EPO)
∅	∅	Slashed zero; empty set
	 	Required space, emspace
€	ε	Small epsilon, Greek
^	≡	Identical with
≐	≐	Equals, dot over; approaches the limit
η	η	Small eta, Greek
Ð	Ð	Capital ETH, Icelandic
ð	ð	Small eth, Icelandic
Ë	Ë	Capital E umlaut
∃	∃	At least one exists; there exists
♀	♀	Female
∀	∀	For all
⅛	⅛	One eighth
¾	¾	Three quarters
⅞	⅜	Three eighths
⅝	⅝	Five eighths
⅞	⅞	Seven eighths
Γ	Γ	Capital gamma, Greek
γ	γ	Small gamma, Greek
≥	≥	Greater than or equal to
·	≧	Greater than, double equals

EPO Entity References		
Char	Entity Reference	Description
C	≷	Greater than, less than
k	≩	Greater-than, not double equals
\nlessgtr	⪈	Greater-than, not equal
\gtrsim	≳	Greater than, similar
>	>	Greater than
/	&guilder;	Dutch florin (EPO)
	 	Hair space
\leftrightarrow	↔	Left-right arrow; mutually implies
X	⊹	Hermitian conjugative matrix
Z	∻	Homothetic
C	―	Horizontal bar; fractional bar
Í	Í	Capital I acute
í	í	Small i acute
Î	Î	Capital I circumflex
\Leftrightarrow	⇔	If and only if
Ì	Ì	Capital I grave
Ā	℩	Inverted iota
½	&iis;	Includes in set (EPO)
ij	ĳ	Small ij, ligature
\neg	⊷	Image of
∞	∞	Infinity
\iint	∬	Double integral
\int	∫	Integral
\in	∈	Set membership
1	&iss;	Included in set (EPO)
Ï	Ï	Capital I umlaut
κ	κ	Small kappa, Greek
Λ	Λ	Capital lambda, Greek
λ	λ	Small lambda, Greek
<	⟨	Left angle bracket
←	←	Left arrow; Relata of a relation
⇐	⇐	Left double arrow; is implied by

EPO Entity References		
Char	Entity Reference	Description
7	&ldurule;	Left - and +45 degree rule (EPO)
\leq	≤	Less than or equal to
\leq	&IE;	Less than, double equals
A	≶	Less than, greater than
8	&lhdurule;	Left horizontal, - and +45 degree rule (EPO)
\int	&lint;	Lower integral (EPO)
ℓ	&litre;	Litres
\cdot	≨	Less than but not double equals to
\neq	⪇	Less than but not equal to
\lozenge	◊	Lozenge; total mark
"	&lparstr;	Left parenthesis, stroke (EPO)
\Leftrightarrow	&lrarr2;	Left arrow over right arrow
\lesssim	≲	Less than, similar
\lrcorner	&lsqbstr;	Left square bracket, stroke (EPO)
<	<	Less-than sign
♂	♂	Male
L	↦	Maps to; functional relationship
f	∺	Geometric properties, minus with four dots
*	*	Middle asterisk
'	&min;	Minutes (EPO)
-	−	Minus
d	∸	Minus with dot above; symmetric difference
\mp	∓	Minus-or-plus sign
®	∾	Most positive
\napprox	&n timer;	Not approximate; not asymptotic to
\ncong	≇	Not congruent with; neither approximately nor actually equal to
\neq	≠	Not equal to
\nearrow	↗	Upward right-pointing arrow (north-east)
\nequiv	≢	Not equivalent; not identical with
\nexists	∄	Negated exists; there does not exist
\ngtr	≧̸	Not greater than, double equals

EPO Entity References		
Char	Entity Reference	Description
\nlessgtr	<code>&nge;</code>	Not greater than, equal
\ngtr	<code>&ngt;</code>	Not greater than
\nlessgtr	<code>&ngtneq;</code>	Neither greater than nor equivalent to
\nlessgtr	<code>&ngtnlt;</code>	Neither greater than nor less than (EPO)
\ni	<code>&ni;</code>	Contains
\nlessgtr	<code>&nle;</code>	Neither less than nor double equal to
\nlessgtr	<code>&nle;</code>	Neither less than nor equal to
\nlessgtr	<code>&nlt;</code>	Not less than
\nlessgtr	<code>&nltneq;</code>	Neither less than nor equivalent to (EPO)
\nlessgtr	<code>&nltngt;</code>	Neither less than not greater than (EPO)
\notin	<code>&notin;</code>	Negated set membership; is not an element of
\nlessgtr	<code>&notni;</code>	Does not contain, negated contains
\nlessgtr	<code>&npar;</code>	Not parallel to
\nlessgtr	<code>&nrarr;</code>	Not right arrow; does not tend to
\nlessgtr	<code>&nsim;</code>	Not similar; not equivalent to
\nlessgtr	<code>&nsime;</code>	Not similar, equals; not asymptotically equal to
\nlessgtr	<code>&nsup;</code>	Not subset; non-proper inclusion in set
\nlessgtr	<code>&nsube;</code>	Not subset, equals; not contained as a subclass in a set
\nlessgtr	<code>&nsup;</code>	Not superset; does not properly include
\nlessgtr	<code>&nsupe;</code>	Not superset, equals; does not contain as subset
ν	<code>&nu;</code>	Small nu, Greek
	<code>&numsp;</code>	Numeric space (width of a number)
\nwarrow	<code>&nwarr;</code>	Upward left-pointing arrow (north west)
\acute{O}	<code>&Oacute;</code>	Capital O acute
\acute{o}	<code>&oacute;</code>	Small o acute
\hat{O}	<code>&Ocirc;</code>	Capital O circumflex
\odot	<code>&odot;</code>	Middle dot in circle; tensor product
\grave{O}	<code>&Ograve;</code>	Capital O grave
Ω	<code>&Omega;</code>	Capital omega, Greek
ω	<code>&omega;</code>	Small omega, Greek
\omicron	<code>&omicron;</code>	Small omicron Greek (EPO)
\ominus	<code>&ominus;</code>	Minus sign in circle; symmetric difference

EPO Entity References		
Char	Entity Reference	Description
⊕	⊕	Plus sign in circle, direct sum, earth sign
∨	∨	Logical OR
↑	ª	Ordinal indicator, feminine (small a underscore)
Ž	º	Ordinal indicator, masculine (small o underscore)
-	⊶	Original of
Ø	Ø	Capital O, slash
ø	ø	Small o, slash
∅	⊘	Diameter
Õ	Õ	Capital O tilde
õ	õ	Small o tilde
⊗	⊗	Multiply sign in circle; direct product
-	&overbar;	Overscore (EPO)
⌒	&Overbar;	Double overscore (EPO)
∥	∥	Parallel to
¶	¶	Paragraph sign
€	&parl;	Parallelogram (EPO)
∂	∂	Partial differential
‰	‰	Per mille
⊥	⊥	Perpendicular; orthogonal
₧	&peseta;	Peseta (EPO)
Φ	Φ	Capital phi, Greek
φ	&phis;	Small phi, Greek; straight phi
ω	ϕ	Curly, or open phi
Π	Π	Capital pi, Greek
π	π	Small pi, Greek
ℏ	ℏ	Planck's 2pi
⊕	∔	Plus sign, dot above; direct sum
≪	≺	Precedes; is dominated by; has a lower rank than
″	″	Double prime
′	′	Single prime
≲	≾	Precedes, similar; dominance
≲	⊰	Precedes under relation

EPO Entity References		
Char	Entity Reference	Description
Ψ	Ψ	Capital psi, Greek
ψ	ψ	Small psi, Greek
√	√	Radical
⟩	⟩	Right angle bracket
⇒	⇒	Implies
→	→	Right arrow; approaches
↔	↠	Two headed right arrow; on to map
↷	↪	Right arrow, hooked; curved arrow
↗	↝	Right arrow wavy; functional relationship
↘	&rdurule;	Right - and +45 degree rule (EPO)
⊠	▭	Rectangle
®	®	Registered trade mark
↗	&rhdurule;	Right horizontal, - and +45 degree rule (EPO)
ρ	ρ	Small rho, Greek
⇨	&rlarr2;	Right arrow over left arrow
•	&rparstr;	Right parenthesis, stroke (EPO)
⌋	&rsqbstr;	Right square bracket, stroke (EPO)
℞	℞	Pharmaceutical prescription (Rx)
₊	&sbplus;	Subscript plus (EPO)
ℓ	≻	Succeeds; has a higher rank than
⊃	≽	Contains or is equal to
″	&sec;	Seconds (EPO)
§	§	Section sign
-	­	Syllable hyphen
Σ	Σ	Capital sigma, Greek
σ	σ	Small sigma, Greek
~	∼	Similar
≈	≃	Similar, equals
Ⓢ	&sinew;	Sine wave (EPO)
¥	&sl0;	Slash zero
⁺	&spplus;	Superscript plus (EPO)
⊂	⊏	Square subset; image of

EPO Entity References		
Char	Entity Reference	Description
<	⊐	Square superset; original of
□	□	Square, open
■	&sqf;	Square, filled; end of proof; Halmos
⌐	&sqslash;	Square, slash; cancelled box (EPO)
⊂	⊂	Subset or is implied by
₀	&sub0;	Subscript 0 (EPO)
₁	&sub1;	Subscript 1 (EPO)
₂	&sub2;	Subscript 2 (EPO)
₃	&sub3;	Subscript 3 (EPO)
₄	&sub4;	Subscript 4 (EPO)
₅	&sub5;	Subscript 5 (EPO)
₆	&sub6;	Subscript 6 (EPO)
₇	&sub7;	Subscript 7 (EPO)
₈	&sub8;	Subscript 8 (EPO)
₉	&sub9;	Subscript 9 (EPO)
⊆	⊆	Subset, equals
-	&submin;	Subscript minus (EPO)
⊂	⫋	Subset, not double equals; is strictly included in set
∑	∑	Summation operator
⊃	⊃	Superset or implies
°	&sup0;	Superscript 0 (EPO)
¹	¹	Superscript 1
³	³	Superscript 3
₄	&sup4;	Superscript 4 (EPO)
₅	&sup5;	Superscript 5 (EPO)
₆	&sup6;	Superscript 6 (EPO)
₇	&sup7;	Superscript 7 (EPO)
₈	&sup8;	Superscript 8 (EPO)
₉	&sup9;	Superscript 9 (EPO)
ᵃ	&supa;	Superscript a (EPO)
^	&supand;	Superscript and (EPO)
,	&supcomma;	Superscript comma (EPO)
⊇	⊇	Superset; equals

EPO Entity References		
Char	Entity Reference	Description
⁻	&supmin;	Superscript minus (EPO)
ß	ß	Small s sharp
τ	τ	Small tau, Greek
∴	∴	Therefore
Θ	Θ	Capital theta, Greek
θ	&thetas;	Small theta, Greek
ϑ	ϑ	Curly or open theta
Þ	Þ	Capital Thorn, Icelandic
þ	þ	Small thorn, Icelandic
×	×	Multiply sign
∫	∭	Triple integral
ℙ	‴	Triple prime
™	™	Trademark
Ú	Ú	Capital U acute
ú	ú	Small u acute
↑	⇑	Up double arrow
↑	↑	Upward arrow; increases; exponent
Û	Û	Capital U circumflex
Ù	Ù	Capital U grave
↰	↿	Up harpoon-left
∫	&uint;	Upper integral (EPO)
¨	¨	Umlaut
Υ	ϒ	Capital upsilon, Greek
υ	υ	Small upsilon, Greek
Δ	▵	Up triangle; increment
▲	▴	Up triangle, filled
↕	↕	Up and down arrow; vertical relationship
↕	⇕	Up and down double arrow
...	⊢	Vertical dash; assertion; reduced to; implies
⋮	⊨	Vertical, double dash; models; statement is true (result in)
◁	⊲	Left triangle open, variant; implied by
∝	∝	Proportional, variant

EPO Entity References		
Char	Entity Reference	Description
▷	⊳	Right triangle open, variant; implies
⊃	⫌︀	Superset, not double equals, variant; strictly includes in set
≈	≙	Estimates; corresponds to
℘	℘	Weierstrass elliptical function, p
Ξ	Ξ	Capital xi, Greek
ξ	ξ	Small xi, Greek
Ý	Ý	Capital Y acute
ý	ý	Small y acute
¥	¥	Yen
ζ	ζ	Small zeta, Greek

Annex 1 - IBM EBCDIC Code Page 500 (Complete)(For EPO reference only - this code page will **NOT** be used for data exchange)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0						&	-	ø	Ø	°	μ	¢	{	}	\	0
1						é	/	É	a	j	~	£	A	J	÷	1
2					â	ê	Â	Ê	b	k	s	¥	B	K	S	2
3					ä	ë	Ä	Ë	c	l	t	·	C	L	T	3
4					à	è	À	È	d	m	u	©	D	M	U	4
5					á	í	Á	Í	e	n	v	§	E	N	V	5
6					ã	î	Ã	Î	f	o	w	¶	F	O	W	6
7					å	ï	Å	Ï	g	p	x	¼	G	P	X	7
8					ç	ì	Ç	Ì	h	q	y	½	H	Q	Y	8
9					ñ	ß	Ñ	`	i	r	z	¾	I	R	Z	9
A					[]	!	:	«	ª	¡	¬	-	¹	²	³
B					.	\$,	#	»	º	¿		ô	û	Ô	Û
C					<	*	%	@	ð	æ		ˉ	ö	ü	Ö	Ü
D					()	_	'	ý		Ý	¨	ò	ù	Ò	Ù
E					+	;	>	=	þ	Æ	Ð	´	ó	ú	Ó	Ú
F					!	^	?	"	±	¤	®	×	õ	ÿ	Õ	Ž

Complete IBM EBCDIC Code Page 500 Character Set Description

Complete IBM EBCDIC Code Page 500 (for EPO use only)				
Char.	EBCDIC 500	ASCII 437/850	Entity Reference	Description
NP	0C			New page control code
CR	0D			Carriage return control code
NL	15			New line control code
ESC	27			Escape control code
SP	40	20		Space
	41		 	Required space
â	42	83		Small a circumflex
ä	43	84		Small a umlaut
à	44	85		Small a grave
á	45	A0		Small a acute
ã	46		ã	Small a tilde
å	47	86		Small a over circle
ç	48	87		Small c cedilla
ñ	49	A4		Small n tilde
[4A	5B		Open square bracket
.	4B	2E		Period
<	4C	3C		Less-than sign
(4D	28		Left
+	4E	2B		Plus
!	4F	21		Exclamation mark
&	50	26		Ampersand
é	51	82		Small e acute
ê	52	88		Small e circumflex
ë	53	89		Small e umlaut
è	54	8A		Small e grave
í	55		í	Small i acute
î	56	8C		Small i circumflex
ï	57	8B		Small i umlaut
ì	58	8D		Small i grave
ß	59		ß	Sharp S
]	5A	5D		Close square bracket
\$	5B	24		Dollar
*	5C	2A		Asterisk
)	5D	29		Right
;	5E	3B		Semicolon
^	5F	5E		Circumflex

Complete IBM EBCDIC Code Page 500 (for EPO use only)				
Char.	EBCDIC 500	ASCII 437/850	Entity Reference	Description
-	60	2D		Hyphen
/	61	2F		Solidus
Â	62		Â	Capital A circumflex
Ä	63	8E		Capital A umlaut
À	64		À	Capital A grave
Á	65		Á	Capital A acute
Ã	66		Ã	Capital A tilde
Å	67	8F		Capital A over circle
Ç	68	80		Capital C cedilla
Ñ	69	A5		Capital N tilde
	6A		¦	Broken vertical bar
,	6B	2C		Comma
%	6C	25		Percent
_	6D	5F		Underscore
>	6E	3E		Greater than
?	6F	3F		Question mark
ø	70		ø	Small o slash
É	71	90		Capital E acute
Ê	72		Ê	Capital E circumflex
Ë	73		Ë	Capital E umlaut
È	74		È	Capital E grave
Í	75		Í	Capital I acute
Î	76		Î	Capital I circumflex
Ï	77		Ï	Capital I umlaut
Ì	78		Ì	Capital I grave
`	79	60		Grave
:	7A	3A		Colon
#	7B	23		Numeral sign
@	7C	40		Commercial at
'	7D	27		Apostrophe
=	7E	3D		Equals
"	7F	22		Quotation
Ø	80		Ø	Capital O slash
a	81	61		Small a
b	82	62		Small b
c	83	63		Small c
d	84	64		Small d
e	85	65		Small e
f	86	66		Small f

Complete IBM EBCDIC Code Page 500 (for EPO use only)				
Char.	EBCDIC 500	ASCII 437/850	Entity Reference	Description
g	87	67		Small g
h	88	68		Small h
i	89	69		Small i
«	8A	AE		Much less than
»	8B	AF		Much greater than
-	8C		ð	Small eth
ÿ	8D		ý	Small y acute
þ	8E		þ	Small thorn
±	8F	F1		Plus minus
°	90	F8		Degree
j	91	6A		Small j
k	92	6B		Small k
l	93	6C		Small l
m	94	6D		Small m
n	95	6E		Small n
o	96	6F		Small o
p	97	70		Small p
q	98	71		Small q
r	99	72		Small r
^a	9A	A6	ª	Superscript a underscored
^o	9B	A7	º	Superscript o underscored
æ	9C	91		Small diphthong
¸	9D		¸	Cedilla
Æ	9E	92		Capital diphthong
¤	9F		¤	International currency sign
μ	A0	E6		Small Greek mu
~	A1	7E		Tilde
s	A2	73		Small s
t	A3	74		Small t
u	A4	75		Small u
v	A5	76		Small v
w	A6	77		Small w
x	A7	78		Small x
y	A8	79		Small y
z	A9	7A		Small z
¡	AA	AD		Inverted exclamation mark
¿	AB	A8		Inverted question mark
Ð	AC		Ð	Capital eth
Ÿ	AD		Ý	Capital Y acute

Complete IBM EBCDIC Code Page 500 (for EPO use only)				
Char.	EBCDIC 500	ASCII 437/850	Entity Reference	Description
Þ	AE		Þ	Capital thorn
®	AF		®	Registered trade mark
¢	B0		¢	Cents
£	B1	9C		Pound sign
¥	B2		¥	Yen
·	B3	FA		Centre dot
©	B4		©	Copyright
§	B5	15	§	Section sign
¶	B6	14	¶	Paragraph sign
¼	B7	AC		Quarter
½	B8	AB		Half
¾	B9		¾	Three quarters
¬	BA	AA		Not sign
	BB	7C		Vertical bar
-	BC	16	&overbar;	Over bar
¨	BD		¨	Umlaut
´	BE		´	Acute
×	BF		×	Multiplication sign
{	C0	7B		Open curly brace
A	C1	41		Capital A
B	C2	42		Capital B
C	C3	43		Capital C
D	C4	44		Capital D
E	C5	45		Capital E
F	C6	46		Capital F
G	C7	47		Capital G
H	C8	48		Capital H
I	C9	49		Capital I
-	CA		­	Syllable hyphen
ô	CB	93		Small o circumflex
ö	CC	94		Small o umlaut
ò	CD	95		Small o grave
ó	CE		ó	Small o acute
õ	CF		õ	Small o tilde
}	D0	7D		Close curly brace
J	D1	4A		Capital J
K	D2	4B		Capital K
L	D3	4C		Capital L

Complete IBM EBCDIC Code Page 500 (for EPO use only)				
Char.	EBCDIC 500	ASCII 437/850	Entity Reference	Description
M	D4	4D		Capital M
N	D5	4E		Capital N
O	D6	4F		Capital O
P	D7	50		Capital P
Q	D8	51		Capital Q
R	D9	52		Capital R
¹	DA		¹	Superscript 1
û	DB	96		Small u circumflex
ü	DC	81		Small u umlaut
ù	DD	97		Small u grave
ú	DE		ú	Small u acute
ÿ	DF	98		Small y umlaut
\	E0	5C		Backslash
÷	E1	F6		Divide sign
S	E2	53		Capital S
T	E3	54		Capital T
U	E4	55		Capital U
V	E5	56		Capital V
W	E6	57		Capital W
X	E7	58		Capital X
Y	E8	59		Capital Y
Z	E9	5A		Capital Z
²	EA	FD		Superscript 2
Ô	EB		Ô	Capital O circumflex
Ö	EC	99		Capital O umlaut
Ò	ED		Ò	Capital O grave
Ó	EE		Ó	Capital O acute
Õ	EF		Õ	Capital O tilde
0	F0	30		Figure 0
1	F1	31		Figure 1
2	F2	32		Figure 2
3	F3	33		Figure 3
4	F4	34		Figure 4
5	F5	35		Figure 5
6	F6	36		Figure 6
7	F7	37		Figure 7
8	F8	38		Figure 8
9	F9	39		Figure 9
³	FA		³	Superscript 3

Complete IBM EBCDIC Code Page 500 (for EPO use only)				
Char.	EBCDIC 500	ASCII 437/850	Entity Reference	Description
Û	FB		Û	Capital U circumflex
Ü	FC	9A		Capital U umlaut
Ù	FD		Ù	Capital U grave
Ú	FE		Ú	Capital U acute
	FF	FF		Undefined character

ANNEX 2 - EPO ENTITY REFERENCES

This annex lists all EPO entity references (shown in the table above) in a format required by a DTD. **EPO contractors should ensure that, when parsing EP documents, such a file is referenced in any DTD and no other character entity reference files.**

```
<!-- ENTITY % epopatSYSTEM "epopat.ent" -->
<!-- Character entity references used in EPO patents - it includes ISO
      entities and those from patspat.ent. See Annex D of ST.32
      and EPO "Rules for Contractors".
      These are the only entity references to be used when processing
      EPO data; and the only file to be referenced in the DTD -->
<!-- %epopat; -->
<!-- -->
<!-- -->
<!ENTITY Aacute SDATA "[Aacute]" -- Capital A acute -->
<!ENTITY Acirc SDATA "[Acirc]" -- Capital A circumflex -->
<!ENTITY acute SDATA "[acute]" -- Acute -->
<!ENTITY Agrave SDATA "[Agrave]" -- Capital A grave -->
<!ENTITY aleph SDATA "[aleph]" -- Aleph -->
<!ENTITY alpha SDATA "[alpha]" -- Small alpha, Greek -->
<!ENTITY amp SDATA "[amp]" -- Ampersand -->
<!ENTITY and SDATA "[and]" -- Logical AND -->
<!ENTITY ang SDATA "[ang]" -- Angle -->
<!ENTITY ang90 SDATA "[ang90]" -- Right (90 degree) angle -->
<!ENTITY angsph SDATA "[angsph]" -- Angle-spherical; spherical angle -->
<!ENTITY anq SDATA "[anq]" -- Approximately but not actually equal
                                     to (EPO)-->
<!ENTITY ap SDATA "[ap]" -- Approximate; asymptotic to -->
<!ENTITY ape SDATA "[ape]" -- Approximate, equals; asymptotic or
                                     equal to -->
<!ENTITY Atilde SDATA "[Atilde]" -- Capital A tilde -->
<!ENTITY atilde SDATA "[atilde]" -- Small a tilde -->
<!ENTITY awconint SDATA "[awconint]" -- Contour integral, anti-clockwise -->
<!ENTITY becaus SDATA "[becaus]" -- Because -->
<!ENTITY bepsi SDATA "[bepsi]" -- Such that -->
<!ENTITY beta SDATA "[beta]" -- Small beta, Greek -->
<!ENTITY blank SDATA "[blank]" -- Blank substitute -->
<!ENTITY boxdl SDATA "[boxdl]" -- Lower left quadrant (boxes only) -->
<!ENTITY boxdr SDATA "[boxdr]" -- Lower right quadrant (boxes only) -->
<!ENTITY boxhd SDATA "[boxhd]" -- Lower left and right quadrants
                                     (boxes only) -->
<!ENTITY boxhu SDATA "[boxhu]" -- Upper left and right quadrants
                                     (boxes only) -->
<!ENTITY boxul SDATA "[boxul]" -- Upper left quadrant (boxes only) -->
<!ENTITY boxur SDATA "[boxur]" -- Upper right quadrant (boxes only) -->
<!ENTITY boxvh SDATA "[boxvh]" -- All four quadrants (boxes only) -->
<!ENTITY boxvl SDATA "[boxvl]" -- Upper and lower left quadrants
                                     (boxes only) -->
<!ENTITY boxvr SDATA "[boxvr]" -- Upper and lower right quadrants
                                     (boxes only) -->
<!ENTITY brvbar SDATA "[brvbar]" -- Broken vertical bar -->
<!ENTITY bull SDATA "[bull]" -- Round bullet, filled -->
<!ENTITY bump SDATA "[bump]" -- Bump equals; approximately
                                     equivalent; geometrical equivalent to -->
<!ENTITY bumpe SDATA "[bumpe]" -- Bumpy equals, equal; approximately
                                     equal to -->
<!ENTITY cap SDATA "[cap]" -- Intersection -->
<!ENTITY cedil SDATA "[cedil]" -- Cedilla -->
<!ENTITY cent SDATA "[cent]" -- Cent -->
<!ENTITY chi SDATA "[chi]" -- Small chi, Greek -->
<!ENTITY cir SDATA "[cir]" -- Circle, open -->
<!ENTITY circlef SDATA "[circlef]" -- Circle, filled -->
<!ENTITY comp SDATA "[comp]" -- Complement -->
<!ENTITY compfn SDATA "[compfn]" -- Composite function (small circle) -->
<!ENTITY cong SDATA "[cong]" -- Congruent with; similar to -->
<!ENTITY conint SDATA "[conint]" -- Contour integral;
                                     circuited integral -->
<!ENTITY copy SDATA "[copy]" -- Copyright -->
<!ENTITY cuepr SDATA "[cuepr]" -- Curly equal precedes -->
<!ENTITY cuesc SDATA "[cuesc]" -- Curly equal succeeds -->
<!ENTITY cularr SDATA "[cularr]" -- Left curved arrow -->
```

<!ENTITY cup	SDATA "[cup]" -- Union or logical sum	-->
<!ENTITY cupre	SDATA "[cupre]" -- Is contained in or equal to	-->
<!ENTITY curarr	SDATA "[curarr]" -- Right curved arrow	-->
<!ENTITY curren	SDATA "[curren]" -- International currency sign	-->
<!ENTITY cwconint	SDATA "[cwconint]" -- Contour integral, clockwise	-->
<!ENTITY cwint	SDATA "[cwint]" -- Clockwise integral	-->
<!ENTITY dagger	SDATA "[dagger]" -- Dagger	-->
<!ENTITY Dagger	SDATA "[Dagger]" -- Double dagger	-->
<!ENTITY darr	SDATA "[darr]" -- Downward arrow; decreases	-->
<!ENTITY Delta	SDATA "[Delta]" -- Capital delta, Greek	-->
<!ENTITY delta	SDATA "[delta]" -- Small delta, Greek	-->
<!ENTITY diam	SDATA "[diam]" -- Open diamond	-->
<!ENTITY diamondf	SDATA "[diamondf]" -- Diamond, filled	-->
<!ENTITY diams	SDATA "[diams]" -- Diamonds suit symbol	-->
<!ENTITY dlarr	SDATA "[dlarr]" -- Downward left-pointing arrow	-->
<!ENTITY dlowbar	SDATA "[dlowbar]" -- Double underscore (EPO)	-->
<!ENTITY dot	SDATA "[dot]" -- Superscript dot; dot above	-->
<!ENTITY Dot	SDATA "[Dot]" -- Dieresis or umlaut mark; double dot	-->
<!ENTITY drarr	SDATA "[drarr]" -- Downward right-pointing arrow	-->
<!ENTITY dtri	SDATA "[dtri]" -- Differential vector operator	-->
<!ENTITY dtrif	SDATA "[dtrif]" -- Down triangle filled	-->
<!ENTITY Ecirc	SDATA "[Ecirc]" -- Capital E circumflex	-->
<!ENTITY efDot	SDATA "[efDot]" -- Equals, falling dots;	-->
<!ENTITY Egrave	SDATA "[Egrave]" -- Capital E grave	-->
<!ENTITY Ehac	SDATA "[Ehac]" -- Equals with hacek;	-->
<!ENTITY empty	SDATA "[empty]" -- Slashed zero; empty set	-->
<!ENTITY emsp	SDATA "[emsp]" -- Required space, emspace	-->
<!ENTITY epsi	SDATA "[epsi]" -- Small epsilon, Greek	-->
<!ENTITY equiv	SDATA "[equiv]" -- Identical with	-->
<!ENTITY esdot	SDATA "[esdot]" -- Equals, dot over;	-->
<!ENTITY eta	SDATA "[eta]" -- Small eta, Greek	-->
<!ENTITY ETH	SDATA "[ETH]" -- Capital ETH, Icelandic	-->
<!ENTITY eth	SDATA "[eth]" -- Small eth, Icelandic	-->
<!ENTITY Euml	SDATA "[Euml]" -- Capital E umlaut	-->
<!ENTITY exist	SDATA "[exist]" -- At least one exists; there exists	-->
<!ENTITY female	SDATA "[female]" -- Female	-->
<!ENTITY forall	SDATA "[forall]" -- For all	-->
<!ENTITY frac18	SDATA "[frac18]" -- One eighth	-->
<!ENTITY frac34	SDATA "[frac34]" -- Three quarters	-->
<!ENTITY frac38	SDATA "[frac38]" -- Three eighths	-->
<!ENTITY frac58	SDATA "[frac58]" -- Five eighths	-->
<!ENTITY frac78	SDATA "[frac78]" -- Seven eighths	-->
<!ENTITY Gamma	SDATA "[Gamma]" -- Capital gamma, Greek	-->
<!ENTITY gamma	SDATA "[gamma]" -- Small gamma, Greek	-->
<!ENTITY ge	SDATA "[ge]" -- Greater than or equal to	-->
<!ENTITY gE	SDATA "[gE]" -- Greater than, double equals	-->
<!ENTITY gl	SDATA "[gl]" -- Greater than, less than	-->
<!ENTITY gnE	SDATA "[gnE]" -- Greater-than, not double equals	-->
<!ENTITY gne	SDATA "[gne]" -- Greater-than, not equal	-->
<!ENTITY gsim	SDATA "[gsim]" -- Greater than, similar	-->
<!ENTITY gt	SDATA "[gt]" -- Greater than	-->
<!ENTITY guilder	SDATA "[guilder]" -- Dutch florin (EPO)	-->
<!ENTITY hairsp	SDATA "[hairsp]" -- Hair space	-->
<!ENTITY harr	SDATA "[harr]" -- Left-right arrow;	-->
<!ENTITY hercon	SDATA "[hercon]" -- Hermitian conjugative matrix	-->
<!ENTITY homtht	SDATA "[homtht]" -- Homothetic	-->
<!ENTITY horbar	SDATA "[horbar]" -- Horizontal bar; fractional bar	-->
<!ENTITY Iacute	SDATA "[Iacute]" -- Capital I acute	-->
<!ENTITY iacute	SDATA "[iacute]" -- Small i acute	-->
<!ENTITY Icirc	SDATA "[Icirc]" -- Capital I circumflex	-->
<!ENTITY iff	SDATA "[iff]" -- If and only if	-->
<!ENTITY Igrave	SDATA "[Igrave]" -- Capital I grave	-->
<!ENTITY iota	SDATA "[iota]" -- Inverted iota	-->
<!ENTITY iis	SDATA "[iis]" -- Includes in set (EPO)	-->
<!ENTITY ijlig	SDATA "[ijlig]" -- Small ij, ligature	-->
<!ENTITY imof	SDATA "[imof]" -- Image of	-->
<!ENTITY infin	SDATA "[infin]" -- Infinity	-->

<!ENTITY Int	SDATA "[Int]" -- Double integral	-->
<!ENTITY int	SDATA "[int]" -- Integral	-->
<!ENTITY isin	SDATA "[isin]" -- Set membership	-->
<!ENTITY iss	SDATA "[iss]" -- Included in set (EPO)	-->
<!ENTITY Iuml	SDATA "[Iuml]" -- Capital I umlaut	-->
<!ENTITY kappa	SDATA "[kappa]" -- Small kappa, Greek	-->
<!ENTITY Lambda	SDATA "[Lambda]" -- Capital lambda, Greek	-->
<!ENTITY lambda	SDATA "[lambda]" -- Small lambda, Greek	-->
<!ENTITY lang	SDATA "[lang]" -- Left angle bracket	-->
<!ENTITY larr	SDATA "[larr]" -- Left arrow; Relata of a relation	-->
<!ENTITY lArr	SDATA "[lArr]" -- Left double arrow; is implied by	-->
<!ENTITY ldurule	SDATA "[ldurule]" -- Left - and +45 degree rule (EPO)	-->
<!ENTITY le	SDATA "[le]" -- Less than or equal to	-->
<!ENTITY lE	SDATA "[lE]" -- Less than, double equals	-->
<!ENTITY lg	SDATA "[lg]" -- Less than, greater than	-->
<!ENTITY lhdurule	SDATA "[lhdurule]" -- Left horizontal, - and +45 degree rule (EPO)	-->
<!ENTITY lint	SDATA "[lint]" -- Lower integral (EPO)	-->
<!ENTITY litre	SDATA "[litre]" -- Litres	-->
<!ENTITY lnE	SDATA "[lnE]" -- Less than but not double equals to	-->
<!ENTITY lne	SDATA "[lne]" -- Less than but not equal to	-->
<!ENTITY loz	SDATA "[loz]" -- Lozenge; total mark	-->
<!ENTITY lparstr	SDATA "[lparstr]" -- Left parenthesis, stroke (EPO)	-->
<!ENTITY lrarr2	SDATA "[lrarr2]" -- Left arrow over right arrow	-->
<!ENTITY lsim	SDATA "[lsim]" -- Less than, similar	-->
<!ENTITY lsqbstr	SDATA "[lsqbstr]" -- Left square bracket, stroke (EPO)	-->
<!ENTITY lt	SDATA "[lt]" -- Less-than sign	-->
<!ENTITY male	SDATA "[male]" -- Male	-->
<!ENTITY map	SDATA "[map]" -- Maps to; functional relationship	-->
<!ENTITY mDDot	SDATA "[mDDot]" -- Geometric properties, minus with four dots	-->
<!ENTITY midast	SDATA "[midast]" -- Middle asterisk	-->
<!ENTITY min	SDATA "[min]" -- Minutes (EPO)	-->
<!ENTITY minus	SDATA "[minus]" -- Minus	-->
<!ENTITY minusd	SDATA "[minusd]" -- Minus with dot above; symmetric difference	-->
<!ENTITY mnplus	SDATA "[mnplus]" -- Minus-or-plus sign	-->
<!ENTITY mstpos	SDATA "[mstpos]" -- Most positive	-->
<!ENTITY nap	SDATA "[nap]" -- Not approximate; not asymptotic to	-->
<!ENTITY ncong	SDATA "[ncong]" -- Not congruent with; neither approximately nor actually equal to	-->
<!ENTITY ne	SDATA "[ne]" -- Not equal to	-->
<!ENTITY nearr	SDATA "[nearr]" -- Upward right-pointing arrow (north-east)	-->
<!ENTITY nequiv	SDATA "[nequiv]" -- Not equivalent; not identical	-->
<!ENTITY nexist	SDATA "[nexist]" -- Negated exists; there does not exist	-->
<!ENTITY ngE	SDATA "[ngE]" -- Not greater than, double equals	-->
<!ENTITY nge	SDATA "[nge]" -- Not greater than, equal	-->
<!ENTITY ngt	SDATA "[ngt]" -- Not greater than	-->
<!ENTITY ngtneq	SDATA "[ngtneq]" -- Neither greater than nor equivalent to	-->
<!ENTITY ngtnlt	SDATA "[ngtnlt]" -- Neither greater than nor less than (EPO)	-->
<!ENTITY ni	SDATA "[ni]" -- Contains	-->
<!ENTITY nLE	SDATA "[nLE]" -- Neither less than nor double equal to	-->
<!ENTITY nle	SDATA "[nle]" -- Neither less than nor equal to	-->
<!ENTITY nlt	SDATA "[nlt]" -- Not less than	-->
<!ENTITY nltneq	SDATA "[nltneq]" -- Neither less than nor equivalent to (EPO)	-->
<!ENTITY nltngt	SDATA "[nltngt]" -- Neither less than not greater than (EPO)	-->
<!ENTITY notin	SDATA "[notin]" -- Negated set membership; is not an element of	-->
<!ENTITY notni	SDATA "[notni]" -- Does not contain, negated contains	-->
<!ENTITY npar	SDATA "[npar]" -- Not parallel to	-->
<!ENTITY nrarr	SDATA "[nrarr]" -- Not right arrow; does not tend to	-->
<!ENTITY nsim	SDATA "[nsim]" -- Not similar; not equivalent to	-->
<!ENTITY nsime	SDATA "[nsime]" -- Not similar, equals; not asymptotically equal to	-->

<!ENTITY nsub	SDATA "[nsub]" --	Not subset; non-proper inclusion in set -->
<!ENTITY nsube	SDATA "[nsube]" --	Not subset, equals; not contained as a subclass in a set -->
<!ENTITY nsup	SDATA "[nsup]" --	Not superset; does not properly include -->
<!ENTITY nsupe	SDATA "[nsupe]" --	Not superset, equals; does not contain as subset -->
<!ENTITY nu	SDATA "[nu]" --	Small nu, Greek -->
<!ENTITY numsp	SDATA "[numsp]" --	Numeric space (width of a number)-->
<!ENTITY nwarr	SDATA "[nwarr]" --	Upward left-pointing arrow (north west) -->
<!ENTITY Oacute	SDATA "[Oacute]" --	Capital O acute -->
<!ENTITY oacute	SDATA "[oacute]" --	Small o acute -->
<!ENTITY Ocirc	SDATA "[Ocirc]" --	Capital O circumflex -->
<!ENTITY odot	SDATA "[odot]" --	Middle dot in circle; tensor product -->
<!ENTITY Ograve	SDATA "[Ograve]" --	Capital O grave -->
<!ENTITY Omega	SDATA "[Omega]" --	Capital omega, Greek -->
<!ENTITY omega	SDATA "[omega]" --	Small omega, Greek -->
<!ENTITY omicron	SDATA "[omicron]" --	Small omicron Greek (EPO) -->
<!ENTITY ominus	SDATA "[ominus]" --	Minus sign in circle; symmetric difference -->
<!ENTITY oplus	SDATA "[oplus]" --	Plus sign in circle, direct sum, earth sign -->
<!ENTITY or	SDATA "[or]" --	Logical OR -->
<!ENTITY ordf	SDATA "[ordf]" --	Ordinal indicator, feminine (small a underscore) -->
<!ENTITY ordm	SDATA "[ordm]" --	Ordinal indicator, masculine (small o underscore)-->
<!ENTITY origof	SDATA "[origof]" --	Original of -->
<!ENTITY Oslash	SDATA "[Oslash]" --	Capital O, slash -->
<!ENTITY oslash	SDATA "[oslash]" --	Small o, slash -->
<!ENTITY osol	SDATA "[osol]" --	Diameter -->
<!ENTITY Otilde	SDATA "[Otilde]" --	Capital O tilde -->
<!ENTITY otilde	SDATA "[otilde]" --	Small o tilde -->
<!ENTITY otimes	SDATA "[otimes]" --	Multiply sign in circle; direct product -->
<!ENTITY overbar	SDATA "[overbar]" --	Overscore (EPO) -->
<!ENTITY Overbar	SDATA "[Overbar]" --	Double overscore (EPO) -->
<!ENTITY par	SDATA "[par]" --	Parallel to -->
<!ENTITY para	SDATA "[para]" --	Paragraph sign -->
<!ENTITY parl	SDATA "[parl]" --	Parallelogram (EPO) -->
<!ENTITY part	SDATA "[part]" --	Partial differential -->
<!ENTITY permil	SDATA "[permil]" --	Per mille -->
<!ENTITY perp	SDATA "[perp]" --	Perpendicular; orthogonal -->
<!ENTITY peseta	SDATA "[peseta]" --	Peseta (EPO) -->
<!ENTITY Phi	SDATA "[Phi]" --	Capital phi, Greek -->
<!ENTITY phis	SDATA "[phis]" --	Small phi, Greek; straight phi -->
<!ENTITY phiv	SDATA "[phiv]" --	Curly, or open phi -->
<!ENTITY Pi	SDATA "[Pi]" --	Capital pi, Greek -->
<!ENTITY pi	SDATA "[pi]" --	Small pi, Greek -->
<!ENTITY planck	SDATA "[planck]" --	Planck's 2pi -->
<!ENTITY plusdo	SDATA "[plusdo]" --	Plus sign, dot above; direct sum -->
<!ENTITY pr	SDATA "[pr]" --	Precedes; is dominated by; has a lower rank than -->
<!ENTITY Prime	SDATA "[Prime]" --	Double prime -->
<!ENTITY prime	SDATA "[prime]" --	Single prime -->
<!ENTITY prsim	SDATA "[prsim]" --	Precedes, similar; dominance -->
<!ENTITY prurel	SDATA "[prurel]" --	Precedes under relation -->
<!ENTITY Psi	SDATA "[Psi]" --	Capital psi, Greek -->
<!ENTITY psi	SDATA "[psi]" --	Small psi, Greek -->
<!ENTITY radic	SDATA "[radic]" --	Radical -->
<!ENTITY rang	SDATA "[rang]" --	Right angle bracket -->
<!ENTITY rArr	SDATA "[rArr]" --	Implies -->
<!ENTITY rarr	SDATA "[rarr]" --	Right arrow; approaches -->
<!ENTITY Rarr	SDATA "[Rarr]" --	Two headed right arrow; on to map-->
<!ENTITY rarrhk	SDATA "[rarrhk]" --	Right arrow, hooked; curved arrow-->
<!ENTITY rarrw	SDATA "[rarrw]" --	Right arrow wavy; functional relationship-->
<!ENTITY rdurule	SDATA "[rdurule]" --	Right - and +45 degree rule (EPO)-->
<!ENTITY rect	SDATA "[rect]" --	Rectangle -->
<!ENTITY reg	SDATA "[reg]" --	Registered trade mark -->
<!ENTITY rhdurule	SDATA "[rhdurule]" --	Right horizontal, - and +45 degree rule (EPO)-->

<!ENTITY rho	SDATA "[rho]" --	Small rho, Greek	-->
<!ENTITY rlarr2	SDATA "[rlarr2]" --	Right arrow over left arrow	-->
<!ENTITY rparstr	SDATA "[rparstr]" --	Right parenthesis, stroke (EPO)	-->
<!ENTITY rsqbstr	SDATA "[rsqbstr]" --	Right square bracket, stroke (EPO)	-->
<!ENTITY rx	SDATA "[rx]" --	Pharmaceutical prescription (Rx)	-->
<!ENTITY sbplus	SDATA "[sbplus]" --	Subscript plus (EPO)	-->
<!ENTITY sc	SDATA "[sc]" --	Succeeds; has a higher rank than	-->
<!ENTITY sccue	SDATA "[sccue]" --	Contains or is equal to	-->
<!ENTITY sec	SDATA "[sec]" --	Seconds (EPO)	-->
<!ENTITY sect	SDATA "[sect]" --	Section sign	-->
<!ENTITY shy	SDATA "[shy]" --	Syllable hyphen	-->
<!ENTITY Sigma	SDATA "[Sigma]" --	Capital sigma, Greek	-->
<!ENTITY sigma	SDATA "[sigma]" --	Small sigma, Greek	-->
<!ENTITY sim	SDATA "[sim]" --	Similar	-->
<!ENTITY sime	SDATA "[sime]" --	Similar, equals	-->
<!ENTITY sinew	SDATA "[sinew]" --	Sine wave (EPO)	-->
<!ENTITY sl0	SDATA "[sl0]" --	Slash zero	-->
<!ENTITY spplus	SDATA "[spplus]" --	Superscript plus (EPO)	-->
<!ENTITY sqsub	SDATA "[sqsub]" --	Square subset; image of	-->
<!ENTITY sqsup	SDATA "[sqsup]" --	Square superset; original of	-->
<!ENTITY squ	SDATA "[squ]" --	Square, open	-->
<!ENTITY squf	SDATA "[squf]" --	Square, filled; end of proof; Halmos	-->
<!ENTITY squslash	SDATA "[squslash]" --	Square, slash; cancelled box (EPO)	-->
<!ENTITY sub	SDATA "[sub]" --	Subset or is implied by	-->
<!ENTITY sub0	SDATA "[sub0]" --	Subscript 0 (EPO)	-->
<!ENTITY sub1	SDATA "[sub1]" --	Subscript 1 (EPO)	-->
<!ENTITY sub2	SDATA "[sub2]" --	Subscript 2 (EPO)	-->
<!ENTITY sub3	SDATA "[sub3]" --	Subscript 3 (EPO)	-->
<!ENTITY sub4	SDATA "[sub4]" --	Subscript 4 (EPO)	-->
<!ENTITY sub5	SDATA "[sub5]" --	Subscript 5 (EPO)	-->
<!ENTITY sub6	SDATA "[sub6]" --	Subscript 6 (EPO)	-->
<!ENTITY sub7	SDATA "[sub7]" --	Subscript 7 (EPO)	-->
<!ENTITY sub8	SDATA "[sub8]" --	Subscript 8 (EPO)	-->
<!ENTITY sub9	SDATA "[sub9]" --	Subscript 9 (EPO)	-->
<!ENTITY sube	SDATA "[sube]" --	Subset, equals	-->
<!ENTITY submin	SDATA "[submin]" --	Subscript minus (EPO)	-->
<!ENTITY subnE	SDATA "[subnE]" --	Subset, not double equals; is strictly included in set	-->
<!ENTITY sum	SDATA "[sum]" --	Summation operator	-->
<!ENTITY sup	SDATA "[sup]" --	Superset or implies	-->
<!ENTITY sup0	SDATA "[sup0]" --	Superscript 0 (EPO)	-->
<!ENTITY sup1	SDATA "[sup1]" --	Superscript 1	-->
<!ENTITY sup3	SDATA "[sup3]" --	Superscript 3	-->
<!ENTITY sup4	SDATA "[sup4]" --	Superscript 4 (EPO)	-->
<!ENTITY sup5	SDATA "[sup5]" --	Superscript 5 (EPO)	-->
<!ENTITY sup6	SDATA "[sup6]" --	Superscript 6 (EPO)	-->
<!ENTITY sup7	SDATA "[sup7]" --	Superscript 7 (EPO)	-->
<!ENTITY sup8	SDATA "[sup8]" --	Superscript 8 (EPO)	-->
<!ENTITY sup9	SDATA "[sup9]" --	Superscript 9 (EPO)	-->
<!ENTITY supa	SDATA "[supa]" --	Superscript a (EPO)	-->
<!ENTITY supand	SDATA "[supand]" --	Superscript and (EPO)	-->
<!ENTITY supcomma	SDATA "[supcomma]" --	Superscript comma (EPO)	-->
<!ENTITY supe	SDATA "[supe]" --	Superset; equals	-->
<!ENTITY supmin	SDATA "[supmin]" --	Superscript minus (EPO)	-->
<!ENTITY szlig	SDATA "[szlig]" --	Small s sharp	-->
<!ENTITY tau	SDATA "[tau]" --	Small tau, Greek	-->
<!ENTITY there4	SDATA "[there4]" --	Therefore	-->
<!ENTITY Theta	SDATA "[Theta]" --	Capital theta, Greek	-->
<!ENTITY thetas	SDATA "[thetas]" --	Small theta, Greek	-->
<!ENTITY thetav	SDATA "[thetav]" --	Curly or open theta	-->
<!ENTITY THORN	SDATA "[THORN]" --	Capital Thorn, Icelandic	-->
<!ENTITY thorn	SDATA "[thorn]" --	Small thorn, Icelandic	-->
<!ENTITY times	SDATA "[times]" --	Multiply sign	-->
<!ENTITY tint	SDATA "[tint]" --	Triple integral	-->
<!ENTITY tprime	SDATA "[tprime]" --	Triple prime	-->
<!ENTITY trade	SDATA "[trade]" --	Trademark	-->
<!ENTITY Uacute	SDATA "[Uacute]" --	Capital U acute	-->
<!ENTITY uacute	SDATA "[uacute]" --	Small u acute	-->
<!ENTITY uArr	SDATA "[uArr]" --	Up double arrow	-->
<!ENTITY uarr	SDATA "[uarr]" --	Upward arrow; increases; exponent	-->
<!ENTITY Ucirc	SDATA "[Ucirc]" --	Capital U circumflex	-->
<!ENTITY Ugrave	SDATA "[Ugrave]" --	Capital U grave	-->

<!ENTITY uharl	SDATA "[uharl]" -- Up harpoon-left	-->
<!ENTITY uint	SDATA "[uint]" -- Upper integral (EPO)	-->
<!ENTITY uml	SDATA "[uml]" -- Umlaut	-->
<!ENTITY Upsi	SDATA "[Upsi]" -- Capital upsilon, Greek	-->
<!ENTITY upsi	SDATA "[upsi]" -- Small upsilon, Greek	-->
<!ENTITY utri	SDATA "[utri]" -- Up triangle	-->
<!ENTITY utrif	SDATA "[utrif]" -- Up triangle, filled	-->
<!ENTITY varr	SDATA "[varr]" -- Up and down arrow; vertical	-->
		relationship	-->
<!ENTITY vArr	SDATA "[vArr]" -- Up and down double arrow	-->
<!ENTITY vdash	SDATA "[vdash]" -- Vertical dash; assertion;	-->
		reduced to; implies	-->
<!ENTITY vDash	SDATA "[vDash]" -- Vertical, double dash; models;	-->
		statement is true (result in)	-->
<!ENTITY vltri	SDATA "[vltri]" -- Left triangle open, variant;	-->
		implied by	-->
<!ENTITY vprop	SDATA "[vprop]" -- Proportional, variant	-->
<!ENTITY vrtri	SDATA "[vrtri]" -- Right triangle open, variant;	-->
		implies	-->
<!ENTITY vsupnE	SDATA "[vsupnE]" -- Superset, not double equals,	-->
		variant; strictly includes in set	-->
<!ENTITY wedgeq	SDATA "[wedgeq]" -- Estimates; corresponds to	-->
<!ENTITY weierp	SDATA "[weierp]" -- Weierstrass elliptical	-->
		function, p	-->
<!ENTITY Xi	SDATA "[Xi]" -- Capital xi, Greek	-->
<!ENTITY xi	SDATA "[xi]" -- Small xi, Greek	-->
<!ENTITY Yacute	SDATA "[Yacute]" -- Capital Y acute	-->
<!ENTITY yacute	SDATA "[yacute]" -- Small y acute	-->
<!ENTITY yen	SDATA "[yen]" -- Yen	-->
<!ENTITY zeta	SDATA "[zeta]" -- Small zeta, Greek	-->

ANNEX 3 - WIPO ST.32 SPECIAL CHARACTER ENTITY REFERENCES

As explained in the introduction wherever possible entity references for characters not in the code page have been taken from published ISO entity references. However, a few characters are neither in the code page nor in the ISO entity sets. WIPO ST.32 assigns entity names to these characters and these are given in the table below (they are also included in the main entity reference table above). These entities are referenced in the DTD, in WIPO ST.32, with the entity name "%patspent;" and with SYSTEM reference "patspent.ent" .

<!ENTITY anq	SDATA "[anq]" --Approx. but not actually equal to	-->
<!ENTITY dlowbar	SDATA "[dlowbar]" --Double underscore	-->
<!ENTITY Ehac	SDATA "[Ehac]" --Equals with hacek; equiangular	-->
<!ENTITY guilder	SDATA "[guilder]" --Dutch guilder	-->
<!ENTITY iis	SDATA "[iis]" --Includes in set	-->
<!ENTITY iss	SDATA "[iss]" --Included in set	-->
<!ENTITY ldurule	SDATA "[ldurule]" --Left - and +45 degree rule	-->
<!ENTITY lhdurule	SDATA "[lhdurule]" --Left horizontal,- & +45 degree rule	-->
<!ENTITY litre	SDATA "[litre]" --Litre	-->
<!ENTITY lint	SDATA "[lint]" --Lower integral	-->
<!ENTITY lparstr	SDATA "[lparstr]" --Left parenthesis, stroke	-->
<!ENTITY lsqbstr	SDATA "[lsqbstr]" --Left square bracket, stroke	-->
<!ENTITY min	SDATA "[min]" --Minutes	-->
<!ENTITY ngtneg	SDATA "[ngtneg]" --Neither greater than nor equiv. to	-->
<!ENTITY ngtnlt	SDATA "[ngtnlt]" --Neither greater than nor less than	-->
<!ENTITY nltneg	SDATA "[nltneg]" --Neither less than nor equivalent to	-->
<!ENTITY nltngt	SDATA "[nltngt]" --Neither less than not greater than	-->
<!ENTITY omicron	SDATA "[omicron]" --Small omicron Greek	-->
<!ENTITY overbar	SDATA "[overbar]" --Overscore	-->
<!ENTITY Overbar	SDATA "[Overbar]" --Double overscore	-->
<!ENTITY parl	SDATA "[parl]" --Parallelogram	-->
<!ENTITY peseta	SDATA "[peseta]" --Peseta	-->
<!ENTITY rdurule	SDATA "[rdurule]" --Right - and +45 degree rule	-->
<!ENTITY rhdurule	SDATA "[rhdurule]" --Right horizontal,- & +45 degree rule	-->
<!ENTITY rparstr	SDATA "[rparstr]" --Right parenthesis, stroke	-->
<!ENTITY rsqbstr	SDATA "[rsqbstr]" --Right square bracket, stroke	-->
<!ENTITY sbplus	SDATA "[subplus]" --Subscript plus	-->
<!ENTITY sec	SDATA "[sec]" --Seconds	-->
<!ENTITY sinew	SDATA "[sinew]" --Sinus wave	-->
<!ENTITY sl0	SDATA "[sl0]" --Slash zero	-->
<!ENTITY spplus	SDATA "[supplus]" --Superscript plus	-->
<!ENTITY squslash	SDATA "[squslash]" --Square slash, cancelled box	-->
<!ENTITY sub0	SDATA "[sub0]" --Subscript 0	-->
<!ENTITY sub1	SDATA "[sub1]" --Subscript 1	-->
<!ENTITY sub2	SDATA "[sub2]" --Subscript 2	-->
<!ENTITY sub3	SDATA "[sub3]" --Subscript 3	-->
<!ENTITY sub4	SDATA "[sub4]" --Subscript 4	-->
<!ENTITY sub5	SDATA "[sub5]" --Subscript 5	-->
<!ENTITY sub6	SDATA "[sub6]" --Subscript 6	-->
<!ENTITY sub7	SDATA "[sub7]" --Subscript 7	-->
<!ENTITY sub8	SDATA "[sub8]" --Subscript 8	-->
<!ENTITY sub9	SDATA "[sub9]" --Subscript 9	-->
<!ENTITY submin	SDATA "[submin]" --Subscript minus	-->
<!ENTITY sup0	SDATA "[sup0]" --Superscript 0	-->
<!ENTITY sup4	SDATA "[sup4]" --Superscript 4	-->
<!ENTITY sup5	SDATA "[sup5]" --Superscript 5	-->
<!ENTITY sup6	SDATA "[sup6]" --Superscript 6	-->
<!ENTITY sup7	SDATA "[sup7]" --Superscript 7	-->
<!ENTITY sup8	SDATA "[sup8]" --Superscript 8	-->
<!ENTITY sup9	SDATA "[sup9]" --Superscript 9	-->
<!ENTITY supa	SDATA "[supa]" --Superscript a	-->
<!ENTITY supand	SDATA "[supand]" --Superscript AND	-->
<!ENTITY supcomma	SDATA "[supcomma]" --Superscript comma	-->
<!ENTITY supmin	SDATA "[supmin]" --Superscript minus	-->
<!ENTITY uint	SDATA "[uint]" --Upper integral	-->

**** End of document ****

HTML Character Entities 1			HTML Character Entities 1 (cont)			HTML Character Entities 2		
 		Space	A	A	Upper case A	a	a	Lower case a
!	!	Exclamation mark	B	B	Upper case B	b	b	Lower case b
"	"	Quotation mark	C	C	Upper case C	c	c	Lower case c
#	#	Pound / hash	D	D	Upper case D	d	d	Lower case d
$	\$	Dollar sign	E	E	Upper case E	e	e	Lower case e
%	%	Percent sign	F	F	Upper case F	f	f	Lower case f
&	&	Ampersand	G	G	Upper case G	g	g	Lower case g
'	`	Apostrophe	H	H	Upper case H	h	h	Lower case h
((Left bracket	I	I	Upper case I	i	i	Lower case i
))	Right bracket	J	J	Upper case J	j	j	Lower case j
*	*	Asterisk	K	K	Upper case K	k	k	Lower case k
+	+	Plus	L	L	Upper case L	l	l	Lower case l
,	,	Comma	M	M	Upper case M	m	m	Lower case m
-	-	Hyphen	N	N	Upper case N	n	n	Lower case n
.	.	Period	O	O	Upper case O	o	o	Lower case o
/	/	Forward Slash	P	P	Upper case P	p	p	Lower case p
0	0	Zero	Q	Q	Upper case Q	q	q	Lower case q
1	1	One	R	R	Upper case R	r	r	Lower case r
2	2	Two	S	S	Upper case S	s	s	Lower case s
3	3	Three	T	T	Upper case T	t	t	Lower case t
4	4	Four	U	U	Upper case U	u	u	Lower case u
5	5	Five	V	V	Upper case V	v	v	Lower case v
6	6	Six	W	W	Upper case W	w	w	Lower case w
7	7	Seven	X	X	Upper case X	x	x	Lower case x
8	8	Eight	Y	Y	Upper case Y	y	y	Lower case y
9	9	Nine	Z	Z	Upper case Z	z	z	Lower case z
:	:	Colon	[[Left square bracket	{	{	Left curly brace
;	;	Semicolon	\	\	Backslash	|		Pipe
<	<	Less than]]	Right square bracket	}	}	Right curly brace
=	=	Equals	^	^	Caret	~	~	Tilde
>	>	Greater than	_	_	Underscore			Delete
?	?	Question mark	`	`	Single quote / backtick	 		Non-breaking space
@	@	"At" symbol				¡	¡	Inverted exclamation mark



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HTML Character Entities 2 (cont)			HTML Character Entities 3			HTML Character Entities 3 (cont)		
¢	¢	Cent symbol	¾	¾	Three quarters	ß	ß	Sharp S
£	£	Pound symbol	¿	¿	Inverted question mark	à	à	a with grave
¤	¤	Currency symbol	À	À	A with grave	á	á	a with acute
¥	¥	Yen symbol	Á	Á	A with acute	â	â	a with circumflex
¦		Broken pipe	Â	Â	A with circumflex	ã	ã	a with tilde
§	§	Section symbol	Ã	Ã	A with tilde	ä	ä	a with umlaut
¨	¨	Umlaut	Ä	Ä	A with umlaut	å	å	a with ring
©	©	Copyright	Å	Å	A with ring	æ	æ	ae
ª	^a	Feminine ordinal	Æ	Æ	AE	ç	ç	c with cedilla
«	«	Double-left arrow	Ç	Ç	C with cedilla	è	è	e with grave
¬	¬	"Not" symbol	È	È	E with grave	é	é	e with acute
­	–	Soft hyphen	É	É	E with acute	ê	ê	e with circumflex
®	®	Registered	Ê	Ê	E with circumflex	ë	ë	e with umlaut
¯	¯	Overline	Ë	Ë	E with umlaut	ì	ì	i with grave
°	°	Degree symbol	Ì	Ì	I with grave	í	í	i with acute
±	±	Plus or minus	Í	Í	I with acute	î	î	i with circumflex
²	²	Squared	Î	Î	I with circumflex	ï	ï	i with umlaut
³	³	Cubed	Ï	Ï	I with umlaut	ð	ð	ETH
´	´	Acute accent	Ð	Ð	ETH	ñ	ñ	n with tilde
µ	μ	Micro symbol	Ñ	Ñ	N with tilde	ò	ò	o with grave
¶	¶	Paragraph symbol	Ò	Ò	O with grave	ó	ó	o with acute
·	·	Middle dot	Ó	Ó	O with acute	ô	ô	o with circumflex
¸	¸	Cedilla	Ô	Ô	O with circumflex	õ	õ	o with tilde
¹	¹	Superscript 1	Õ	Ö	O with tilde	ö	ö	o with umlaut
º	^o	Masculine ordinal	Ö	Ö	O with umlaut	÷	÷	Divide symbol
»	»	Double-right arrow	×	×	Multiply symbol	ø	ø	o with slash
¼	¼	One quarter	Ø	Ø	O with slash	ù	ù	u with grave
½	½	One half	Ù	Ù	U with grave	ú	ú	u with acute
			Ú	Ú	U with acute	û	û	u with circumflex
			Û	Û	U with circumflex	ü	ü	u with umlaut
			Ü	Ü	U with umlaut	ý	ý	y with acute
			Ý	Ý	Y with acute	þ	þ	THORN
			Þ	Þ	THORN	ÿ	ÿ	y with umlaut



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HTML ENTITIES

http://www.tutorialspoint.com/html/html_entities.htm

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Some characters are reserved in HTML and they have special meaning when used in HTML document. For example, you cannot use the greater than and less than signs or angle brackets within your HTML text because the browser will treat them differently and will try to draw a meaning related to HTML tag.

HTML processors must support following five special characters listed in the table that follows.

Symbol	Description	Entity Name	Number Code
"	quotation mark	"	"
'	apostrophe	'	'
&	ampersand	&	&
<	less-than	<	<
>	greater-than	>	>

Example

If you want to write `<div >` as a code then you will have to write as follows:

```
<!DOCTYPE html>
<html>
<head>
<title>HTML Entities</title>
</head>
<body>
<div id="character">
</body>
</html>
```

This will produce following result:

`<div id="character">`

There is also a long list of special characters in HTML 4.0. In order for these to appear in your document, you can use either the numerical codes or the entity names. For example, to insert a copyright symbol you can use either of the following:

```
&copy; 2007
or
&#169; 2007
```

ISO 8859-1 Symbol Entities

Result	Description	Entity Name	Number Code
	non-breaking space	 	
¡	inverted exclamation mark	¡	¡
¤	currency	¤	¤
¢	cent	¢	¢

£	pound	£	£
¥	yen	¥	¥
	broken vertical bar	¦	¦
§	section	§	§
¨	spacing diaeresis	¨	¨
©	copyright	©	©
ª	feminine ordinal indicator	ª	ª
«	angle quotation mark <i>left</i>	«	«
¬	negation	¬	¬
	soft hyphen	­	­
®	registered trademark	®	®
™	trademark	™	™
ˆ	spacing macron	¯	¯
°	degree	°	°
±	plus-or-minus	±	±
²	superscript 2	²	²
³	superscript 3	³	³
´	spacing acute	´	´
μ	micro	µ	µ
¶	paragraph	¶	¶
·	middle dot	·	·
¸	spacing cedilla	¸	¸
¹	superscript 1	¹	¹
º	masculine ordinal indicator	º	º
»	angle quotation mark <i>right</i>	»	»
¼	fraction 1/4	¼	¼
½	fraction 1/2	½	½
¾	fraction 3/4	¾	¾
¿	inverted question mark	¿	¿
×	multiplication	×	×
÷	division	÷	÷

ISO 8859-1 Character Entities

Result	Description	Entity Name	Number Code
À	capital a, grave accent	À	À
Á	capital a, acute accent	Á	Á
Â	capital a, circumflex accent	Â	Â
Ã	capital a, tilde	Ã	Ã
Ä	capital a, umlaut mark	Ä	Ä
Å	capital a, ring	Å	Å
Æ	capital ae	Æ	Æ
Ç	capital c, cedilla	Ç	Ç
È	capital e, grave accent	È	È
É	capital e, acute accent	É	É
Ê	capital e, circumflex accent	Ê	Ê
Ë	capital e, umlaut mark	Ë	Ë
Ì	capital i, grave accent	Ì	Ì
Í	capital i, acute accent	Í	Í
Î	capital i, circumflex accent	Î	Î
Ï	capital i, umlaut mark	Ï	Ï
Ð	capital eth, Icelandic	Ð	Ð
Ñ	capital n, tilde	Ñ	Ñ
Ò	capital o, grave accent	Ò	Ò
Ó	capital o, acute accent	Ó	Ó
Ô	capital o, circumflex accent	Ô	Ô
Õ	capital o, tilde	Õ	Õ
Ö	capital o, umlaut mark	Ö	Ö
Ø	capital o, slash	Ø	Ø
Ù	capital u, grave accent	Ù	Ù
Ú	capital u, acute accent	Ú	Ú
Û	capital u, circumflex accent	Û	Û
Ü	capital u, umlaut mark	Ü	Ü
Ý	capital y, acute accent	Ý	Ý
Þ	capital THORN, Icelandic	Þ	Þ
ß	small sharp s, German	ß	ß
à	small a, grave accent	à	à
á	small a, acute accent	á	á
â	small a, circumflex accent	â	â

ã	small a, tilde	ã	ã
ä	small a, umlaut mark	ä	ä
å	small a, ring	å	å
æ	small ae	æ	æ
ç	small c, cedilla	ç	ç
è	small e, grave accent	è	è
é	small e, acute accent	é	é
ê	small e, circumflex accent	ê	ê
ë	small e, umlaut mark	ë	ë
ì	small i, grave accent	ì	ì
í	small i, acute accent	í	í
î	small i, circumflex accent	î	î
ï	small i, umlaut mark	ï	ï
ð	small eth, Icelandic	ð	ð
ñ	small n, tilde	ñ	ñ
ò	small o, grave accent	ò	ò
ó	small o, acute accent	ó	ó
ô	small o, circumflex accent	ô	ô
õ	small o, tilde	õ	õ
ö	small o, umlaut mark	ö	ö
ø	small o, slash	ø	ø
ù	small u, grave accent	ù	ù
ú	small u, acute accent	ú	ú
û	small u, circumflex accent	û	û
ü	small u, umlaut mark	ü	ü
ý	small y, acute accent	ý	ý
þ	small thorn, Icelandic	þ	þ
ÿ	small y, umlaut mark	ÿ	ÿ

Other Entities Supported by HTML Browsers

Result	Description	Entity Name	Number Code
Œ	capital ligature OE	Œ	Œ
œ	small ligature oe	œ	œ
Š	capital S with caron	Š	Š

Š	small S with caron	š	š
Ÿ	capital Y with diaeres	Ÿ	Ÿ
^	modifier letter circumflex accent	ˆ	ˆ
~	small tilde	˜	˜
	en space	 	 
	em space	 	 
	thin space	 	 
	zero width non-joiner	‌	‌
	zero width joiner	‍	‍
	left-to-right mark	‎	‎
	right-to-left mark	‏	‏
–	en dash	–	–
—	em dash	—	—
‘	left single quotation mark	‘	‘
’	right single quotation mark	’	’
,	single low-9 quotation mark	‚	‚
“	left double quotation mark	“	“
”	right double quotation mark	”	”
„	double low-9 quotation mark	„	„
†	dagger	†	†
‡	double dagger	‡	‡
...	horizontal ellipsis	…	…
‰	per mille	‰	‰
‹	single left-pointing angle quotation	‹	‹
›	single right-pointing angle quotation	›	›
€	euro	€	€

Loading [MathJax]/jax/output/HTML-CSS/fonts/TeX/fontdata.js

HTML Character Entities Cheat Sheet

Latin Characters

A	B	C	D	E	F	G	H	I	J
A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z	a	b	c	d
U	V	W	X	Y	Z	a	b	c	d
e	f	g	h	i	j	k	l	m	n
e	f	g	h	i	j	k	l	m	n
o	p	q	r	s	t	u	v	w	x
o	p	q	r	s	t	u	v	w	x
y	z	À	Á	Â	Ã	Ä	Å	Æ	Ç
y	z	À	Á	Â	Ã	Ä	Å	Æ	Ç
y	z	y	z	{	|	}	~		€
È	É	Ê	Ë	Ì	Í	Î	Ï	Ð	Ñ
È	É	Ê	Ë	Ì	Í	Î	Ï	Ð	Ñ
Ò	Ó	Ô	Õ	Ö	Ø	Œ	Š	Ù	Ú
Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û
Û	Ü	Ý	Ÿ	Þ	ß	à	á	â	ã
Û	Ü	Ý	Þ	ß	à	á	â	ã	ä
ä	å	æ	ç	è	é	ê	ë	ì	í
ä	å	æ	ç	è	é	ê	ë	ì	í
î	ï	ð	ñ	ò	ó	ô	õ	ö	ø
î	ï	ð	ñ	ò	ó	ô	õ	ö	÷
œ	š	ù	ú	û	ü	ý	ÿ	þ	
œ	š	ù	ú	û	ü	ý	ÿ	þ	

Greek Characters

Α	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ
Α	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ
Α	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ
Λ	Μ	Ν	Ξ	Ο	Π	Ρ	Σ	Τ	Υ
Λ	Μ	Ν	Ξ	Ο	Π	Ρ	Σ	Τ	Υ
Λ	Μ	Ν	Ξ	Ο	Π	Ρ	Σ	Τ	Υ
Φ	Χ	Ψ	Ω	α	β	γ	δ	ε	ζ
Φ	Χ	Ψ	Ω	α	β	γ	δ	ε	ζ
Φ	Χ	Ψ	Ω	α	β	γ	δ	ε	ζ
η	θ	ι	κ	λ	μ	ν	ξ	ο	π
η	θ	ι	κ	λ	μ	ν	ξ	ο	π
η	θ	ι	κ	λ	μ	ν	ξ	ο	
ρ	ς	σ	τ	υ	φ	χ	ψ	ω	Υ
ρ	ς	σ	τ	υ	φ	χ	ψ	ω	ϒ
ρ	ς	σ	τ	υ	φ	χ	ψ	ω	ϒ
ϖ	ϑ								
ϖ	ϑ								
ϖ	ϑ								

Numbers

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

Punctuation and Miscellaneous Symbols

#	%	*	-	‘	•	,	:	;	^
!	!	*	-	'	.	,	:	;	^
_	@	/	\	()	{	}	[]
_	@	/	\	()	{	}	[]
	!	!	!	?	¿	&	“	‘	’
|	¦	!	¡	?	¿	&	"	‘	’
¦			¡		¿	&	"	‘	’
,	“	”	„	<	>	«	»	...	•
‚	“	”	„	‹	›	«	»	…	·
‚	“	”	„	‹	›	«	»	…	·
°	ª	‡	‡	%o	ˆ	ˆ	˜	¨	˙
º	ª	†	‡	‰	´	ˆ	˜	¨	¸
º	ª	†	‡	‰	´	«	˜	¨	¸
—	—	—	—	•	§	¶	©	®	™
¯	‾	–	—	•	§	¶	©	®	™
¯	‾	–	—	•	§	¶	©	®	™

Mathematical Symbols

+	−	±	×	÷	=	≠	≡	~	≅
+	−	±	×	÷	=	≠	≡	∼	≅
−	±	×	÷			≠	≅	²	≅
≈	<	≤	>	≥	*	¬	°	²	³
≈	<	≤	>	≥	∗	¬	°	²	³
≈	−	≤	≦	≥	∗	∈	°	²	³
'	"	/	¼	½	¾	√	∇	∃	∅
′	″	⁄	¼	½	¾	√	∀	∃	∅
′	″	⁄	¼	½	¾	√	∀	∃	∅
∇	∈	∉	∅	α	∠	∧	∨	∩	∪
∇	∈	∉		∝	∠	∧	∨	∩	∪
∇	∈	∉	∋	∝	∠	∧	∨	∩	∪
⊂	⊃	⊄	⊆	⊇	⊕	⊗	⊥	⋅	⌈
⊂	⊃	⊅	⊆	⊇	⊕	⊗	⊥	⋅	⌈
⊂	⊃	⊄	⊆	⊇	⊕	⊗	⊥	⋅	⌈
⌊	⌋	⌌	⌋	⌋	⌋	⌋	⌋	⌋	⌋
⌉	⌊	⌋	⟨	⟩	∴	∞	ƒ	∂	∫
⌉	⌊	⌋	〈	〉	∴	∞	ƒ	∂	∫

Π	Σ	μ	ρ	ϑ	ϑ	ϑ
∏	∑	µ	℘	ℑ	ℜ	ℵ
∏	∑	µ	℘	ℑ	ℜ	ℵ

Currency Symbols

\$	¢	£	¤	¥	€
$	¢	£	¤	¥	€
	¢	£	¤	¥	€

Arrows and Shapes

↵	←	↑	→	↓	↔	⇐	⇑	⇒	⇓
↵	←	↑	→	↓	↔	⇐	⇑	⇒	⇓
↵	←	↑	→	↓	↔	⇐	⇑	⇒	⇓
↔	♠	♣	♥	♦	◇				
⇔	♠	♣	♥	♦	◊				
⇔	♠	♣	♥	♦	◊				

Spacing Symbols

 	 	 	 	‍	‍
 	 	 	 	‌	‍

HTML Codes

A web page is created using a language called, Hypertext Markup Language, better known as HTML Code. You can write your own coding within a plain text editor, such as Note Pad, or use an HTML editor, which will write the code for you.

Here are some character and colour HTML codes you might find of help

[Character Codes](#)

[Character Codes Latin extended](#)

[Basic Colour Codes](#)

[Full Colour Codes](#)

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HTML Codes - Characters and Symbols

Standard ASCII set, HTML Entity names, ISO 10646, ISO 8879, ISO 8859-1 Latin alphabet No. 1

Browser support: All browsers

ASCII		Symbol	HTML Number	HTML Name	Description
Dec	Hex				
32	20		 		space
33	21	!	!		exclamation point
34	22	"	"	"	double quotes
35	23	#	#		number sign
36	24	\$	$		dollar sign
37	25	%	%		percent sign
38	26	&	&	&	ampersand
39	27	'	'		single quote
40	28	((opening parenthesis
41	29))		closing parenthesis
42	2A	*	*		asterisk
43	2B	+	+		plus sign
44	2C	,	,		comma
45	2D	-	-		minus sign - hyphen
46	2E	.	.		period
47	2F	/	/		slash
48	30	0	0		zero
49	31	1	1		one
50	32	2	2		two
51	33	3	3		three
52	34	4	4		four
53	35	5	5		five
54	36	6	6		six
55	37	7	7		seven
56	38	8	8		eight
57	39	9	9		nine
58	3A	:	:		colon
59	3B	;	;		semicolon
60	3C	<	<	<	less than sign
61	3D	=	=		equal sign
62	3E	>	>	>	greater than sign
63	3F	?	?		question mark
64	40	@	@		at symbol
65	41	A	A		Capital letter A
66	42	B	B		Capital letter B
67	43	C	C		Capital letter C
68	44	D	D		Capital letter D
69	45	E	E		Capital letter E
70	46	F	F		Capital letter F
71	47	G	G		Capital letter G
72	48	H	H		Capital letter H
73	49	I	I		Capital letter I
74	4A	J	J		Capital letter J
75	4B	K	K		Capital letter K
76	4C	L	L		Capital letter L
77	4D	M	M		Capital letter M
78	4E	N	N		Capital letter N
79	4F	O	O		Capital letter O
80	50	P	P		Capital letter P
81	51	Q	Q		Capital letter Q
82	52	R	R		Capital letter R
83	53	S	S		Capital letter S

HTML Codes - Characters and Symbols

Standard ASCII set, HTML Entity names, ISO 10646, ISO 8879, ISO 8859-1 Latin alphabet No. 1

Browser support: All browsers

ASCII		Symbol	HTML Number	HTML Name	Description
Dec	Hex				
84	54	T	T		Capital letter T
85	55	U	U		Capital letter U
86	56	V	V		Capital letter V
87	57	W	W		Capital letter W
88	58	X	X		Capital letter X
89	59	Y	Y		Capital letter Y
90	5A	Z	Z		Capital letter Z
91	5B	[[opening bracket
92	5C	\	\		backslash
93	5D]]		closing bracket
94	5E	^	^		caret - circumflex
95	5F	_	_		underscore
96	60	`	`		grave accent
97	61	a	a		Small letter a
98	62	b	b		Small letter b
99	63	c	c		Small letter c
100	64	d	d		Small letter d
101	65	e	e		Small letter e
102	66	f	f		Small letter f
103	67	g	g		Small letter g
104	68	h	h		Small letter h
105	69	i	i		Small letter i
106	6A	j	j		Small letter j
107	6B	k	k		Small letter k
108	6C	l	l		Small letter l
109	6D	m	m		Small letter m
110	6E	n	n		Small letter n
111	6F	o	o		Small letter o
112	70	p	p		Small letter p
113	71	q	q		Small letter q
114	72	r	r		Small letter r
115	73	s	s		Small letter s
116	74	t	t		Small letter t
117	75	u	u		Small letter u
118	76	v	v		Small letter v
119	77	w	w		Small letter w
120	78	x	x		Small letter x
121	79	y	y		Small letter y
122	7A	z	z		Small letter z
123	7B	{	{		opening brace
124	7C		|		vertical bar
125	7D	}	}		closing brace
126	7E	~	~		equivalency sign - tilde
127	7F				(not defined in HTML 4 standard)
128	80				(not defined in HTML 4 standard)
129	81				
130	82				
131	83				
132	84				
133	85				
134	86				
135	87				

HTML Codes - Characters and Symbols

Standard ASCII set, HTML Entity names, ISO 10646, ISO 8879, ISO 8859-1 Latin alphabet No. 1

Browser support: All browsers

ASCII		Symbol	HTML Number	HTML Name	Description
Dec	Hex				
136	88				
137	89				
138	8A				
139	8B				
140	8C				
141	8D				
142	8E				
143	8F				
144	90				(not defined in HTML 4 standard)
145	91				
146	92				
147	93				
148	94				
149	95				
150	96				
151	97				
152	98				
153	99				
154	9A				
155	9B				
156	9C				
157	9D				
158	9E				
159	9F				
160	A0		 	 	non-breaking space
161	A1	¡	¡	¡	inverted exclamation mark
162	A2	¢	¢	¢	cent sign
163	A3	£	£	£	pound sign
164	A4	¤	¤	¤	currency sign
165	A5	¥	¥	¥	yen sign
166	A6	¦	¦	¦	broken vertical bar
167	A7	§	§	§	section sign
168	A8	¨	¨	¨	spacing diaeresis - umlaut
169	A9	©	©	©	copyright sign
170	AA	ª	ª	ª	feminine ordinal indicator
171	AB	«	«	«	left double angle quotes
172	AC	¬	¬	¬	not sign
173	AD	-	­	­	soft hyphen
174	AE	®	®	®	registered trade mark sign
175	AF	¯	¯	¯	spacing macron - overline
176	B0	°	°	°	degree sign
177	B1	±	±	±	plus-or-minus sign
178	B2	²	²	²	superscript two - squared
179	B3	³	³	³	superscript three - cubed
180	B4	´	´	´	acute accent - spacing acute
181	B5	µ	µ	µ	micro sign
182	B6	¶	¶	¶	pilcrow sign - paragraph sign
183	B7	•	·	·	middle dot - Georgian comma
184	B8	¸	¸	¸	spacing cedilla
185	B9	¹	¹	¹	superscript one
186	BA	º	º	º	masculine ordinal indicator
187	BB	»	»	»	right double angle quotes

HTML Codes - Characters and Symbols

Standard ASCII set, HTML Entity names, ISO 10646, ISO 8879, ISO 8859-1 Latin alphabet No. 1

Browser support: All browsers

ASCII		Symbol	HTML Number	HTML Name	Description
Dec	Hex				
188	BC	¼	¼	¼	fraction one quarter
189	BD	½	½	½	fraction one half
190	BE	¾	¾	¾	fraction three quarters
191	BF	¿	¿	?	inverted question mark
192	C0	À	À	À	latin capital letter A with grave
193	C1	Á	Á	Á	latin capital letter A with acute
194	C2	Â	Â	Â	latin capital letter A with circumflex
195	C3	Ã	Ã	Ã	latin capital letter A with tilde
196	C4	Ä	Ä	Ä	latin capital letter A with diaeresis
197	C5	Å	Å	Å	latin capital letter A with ring above
198	C6	Æ	Æ	Æ	latin capital letter AE
199	C7	Ç	Ç	Ç	latin capital letter C with cedilla
200	C8	È	È	È	latin capital letter E with grave
201	C9	É	É	É	latin capital letter E with acute
202	CA	Ê	Ê	Ê	latin capital letter E with circumflex
203	CB	Ë	Ë	Ë	latin capital letter E with diaeresis
204	CC	Ì	Ì	Ì	latin capital letter I with grave
205	CD	Í	Í	Í	latin capital letter I with acute
206	CE	Î	Î	Î	latin capital letter I with circumflex
207	CF	Ï	Ï	Ï	latin capital letter I with diaeresis
208	D0	Ð	Ð	Ð	latin capital letter ETH
209	D1	Ñ	Ñ	Ñ	latin capital letter N with tilde
210	D2	Ò	Ò	Ò	latin capital letter O with grave
211	D3	Ó	Ó	Ó	latin capital letter O with acute
212	D4	Ô	Ô	Ô	latin capital letter O with circumflex
213	D5	Õ	Õ	Õ	latin capital letter O with tilde
214	D6	Ö	Ö	Ö	latin capital letter O with diaeresis
215	D7	×	×	×	multiplication sign
216	D8	Ø	Ø	Ø	latin capital letter O with slash
217	D9	Ù	Ù	Ù	latin capital letter U with grave
218	DA	Ú	Ú	Ú	latin capital letter U with acute
219	DB	Û	Û	Û	latin capital letter U with circumflex
220	DC	Ü	Ü	Ü	latin capital letter U with diaeresis
221	DD	Ý	Ý	Ý	latin capital letter Y with acute
222	DE	Þ	Þ	Þ	latin capital letter THORN
223	DF	ß	ß	ß	latin small letter sharp s - ess-zed
224	E0	à	à	à	latin small letter a with grave
225	E1	á	á	á	latin small letter a with acute
226	E2	â	â	â	latin small letter a with circumflex
227	E3	ã	ã	ã	latin small letter a with tilde
228	E4	ä	ä	ä	latin small letter a with diaeresis
229	E5	å	å	å	latin small letter a with ring above
230	E6	æ	æ	æ	latin small letter ae
231	E7	ç	ç	ç	latin small letter c with cedilla
232	E8	è	è	è	latin small letter e with grave
233	E9	é	é	é	latin small letter e with acute
234	EA	ê	ê	ê	latin small letter e with circumflex
235	EB	ë	ë	ë	latin small letter e with diaeresis
236	EC	ì	ì	ì	latin small letter i with grave
237	ED	í	í	í	latin small letter i with acute
238	EE	î	î	î	latin small letter i with circumflex
239	EF	ï	ï	ï	latin small letter i with diaeresis

HTML Codes - Characters and Symbols

Standard ASCII set, HTML Entity names, ISO 10646, ISO 8879, ISO 8859-1 Latin alphabet No. 1
Browser support: All browsers




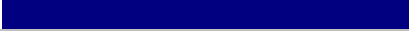








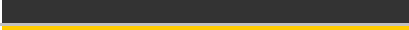





ASCII		Symbol	HTML Number	HTML Name	Description
Dec	Hex				
240	F0	ð	ð	ð	latin small letter eth
241	F1	ñ	ñ	ñ	latin small letter n with tilde
242	F2	ò	ò	ò	latin small letter o with grave
243	F3	ó	ó	ó	latin small letter o with acute
244	F4	ô	ô	ô	latin small letter o with circumflex
245	F5	õ	õ	õ	latin small letter o with tilde
246	F6	ö	ö	ö	latin small letter o with diaeresis
247	F7	÷	÷	÷	division sign
248	F8	ø	ø	ø	latin small letter o with slash
249	F9	ù	ù	ù	latin small letter u with grave
250	FA	ú	ú	ú	latin small letter u with acute
251	FB	û	û	û	latin small letter u with circumflex
252	FC	ü	ü	ü	latin small letter u with diaeresis
253	FD	ý	ý	ý	latin small letter y with acute
254	FE	þ	þ	þ	latin small letter thorn
255	FF	ÿ	ÿ	ÿ	latin small letter y with diaeresis

HTML Codes - Characters and Symbols

HTML 4.01, ISO 10646, ISO 8879, Latin extended A and B,

Browser support: Internet Explorer > 4, Netscape > 4

Dec	Hex	Symbol	HTML Number	HTML Name	Description
338	152	Œ	Œ		latin capital letter OE
339	153	œ	œ		latin small letter oe
352	160	Š	Š		latin capital letter S with caron
353	161	š	š		latin small letter s with caron
376	178	Ÿ	Ÿ		latin capital letter Y with diaeresis
402	192	ƒ	ƒ		latin small f with hook - function
8211	2013	–	–		en dash
8212	2014	—	—		em dash
8216	2018	‘	‘		left single quotation mark
8217	2019	’	’		right single quotation mark
8218	201A	,	‚		single low-9 quotation mark
8220	201C	“	“		left double quotation mark
8221	201D	”	”		right double quotation mark
8222	201E	„	„		double low-9 quotation mark
8224	2020	†	†		dagger
8225	2021	‡	‡		double dagger
8226	2022	•	•		bullet
8230	2026	...	…		horizontal ellipsis
8240	2030	‰	‰		per thousand sign
8364	20AC	€	€	€	euro sign
8482	2122	™	™		trade mark sign

Basic Hexadecimal Colour Codes		
Color	Colour Code	
Red	#FF0000	
Turquoise	#00FFFF	
Light Blue	#0000FF	
Dark Blue	#0000A0	
Light Purple	#FF0080	
Dark Purple	#800080	
Yellow	#FFFF00	
Pastel Green	#00FF00	
Pink	#FF00FF	
(White)	#FFFFFF	
Light Grey	#C0C0C0	
Dark Grey	#808080	
Black	#000000	
Orange	#FF8040	
Brown	#804000	
Burgundy	#800000	
Forest Green	#808000	
Grass Green	#408080	

Colour Code Chart		
COLOUR NAME	CODE	COLOUR
Black	#000000	Black
Gray0	#150517	Gray0
Gray18	#250517	Gray18
Gray21	#2B1B17	Gray21
Gray23	#302217	Gray23
Gray24	#302226	Gray24
Gray25	#342826	Gray25
Gray26	#34282C	Gray26
Gray27	#382D2C	Gray27
Gray28	#3b3131	Gray28
Gray29	#3E3535	Gray29
Gray30	#413839	Gray30
Gray31	#41383C	Gray31
Gray32	#463E3F	Gray32
Gray34	#4A4344	Gray34
Gray35	#4C4646	Gray35
Gray36	#4E4848	Gray36
Gray37	#504A4B	Gray37
Gray38	#544E4F	Gray38
Gray39	#565051	Gray39
Gray40	#595454	Gray40
Gray41	#5C5858	Gray41
Gray42	#5F5A59	Gray42
Gray43	#625D5D	Gray43
Gray44	#646060	Gray44
Gray45	#666362	Gray45
Gray46	#696565	Gray46
Gray47	#6D6968	Gray47
Gray48	#6E6A6B	Gray48
Gray49	#726E6D	Gray49
Gray50	#747170	Gray50
Gray	#736F6E	Gray
Slate Gray4	#616D7E	Slate Gray4
Slate Gray	#657383	Slate Gray
Light Steel Blue4	#646D7E	Light Steel Blue4
Light Slate Gray	#6D7B8D	Light Slate Gray
Cadet Blue4	#4C787E	Cadet Blue4
Dark Slate Gray4	#4C7D7E	Dark Slate Gray4
Thistle4	#806D7E	Thistle4
Medium Slate Blue	#5E5A80	Medium Slate Blue
Medium Purple4	#4E387E	Medium Purple4
Midnight Blue	#151B54	Midnight Blue
Dark Slate Blue	#2B3856	Dark Slate Blue
Dark Slate Gray	#25383C	Dark Slate Gray
Dim Gray	#463E41	Dim Gray
Cornflower Blue	#151B8D	Cornflower Blue
Royal Blue4	#15317E	Royal Blue4
Slate Blue4	#342D7E	Slate Blue4
Royal Blue	#2B60DE	Royal Blue
Royal Blue1	#306EFF	Royal Blue1
Royal Blue2	#2B65EC	Royal Blue2
Royal Blue3	#2554C7	Royal Blue3
Deep Sky Blue	#3BB9FF	Deep Sky Blue
Deep Sky Blue2	#38ACEC	Deep Sky Blue2
Slate Blue	#357EC7	Slate Blue

Colour Code Chart		
COLOUR NAME	CODE	COLOUR
Deep Sky Blue3	#3090C7	Deep Sky Blue3
Deep Sky Blue4	#25587E	Deep Sky Blue4
Dodger Blue	#1589FF	Dodger Blue
Dodger Blue2	#157DEC	Dodger Blue2
Dodger Blue3	#1569C7	Dodger Blue3
Dodger Blue4	#153E7E	Dodger Blue4
Steel Blue4	#2B547E	Steel Blue4
Steel Blue	#4863A0	Steel Blue
Slate Blue2	#6960EC	Slate Blue2
Violet	#8D38C9	Violet
Medium Purple3	#7A5DC7	Medium Purple3
Medium Purple	#8467D7	Medium Purple
Medium Purple2	#9172EC	Medium Purple2
Medium Purple1	#9E7BFF	Medium Purple1
Light Steel Blue	#728FCE	Light Steel Blue
Steel Blue3	#488AC7	Steel Blue3
Steel Blue2	#56A5EC	Steel Blue2
Steel Blue1	#5CB3FF	Steel Blue1
Sky Blue3	#659EC7	Sky Blue3
Sky Blue4	#41627E	Sky Blue4
Slate Blue	#737CA1	Slate Blue
Slate Blue	#737CA1	Slate Blue
Slate Gray3	#98AFC7	Slate Gray3
Violet Red	#F6358A	Violet Red
Violet Red1	#F6358A	Violet Red1
Violet Red2	#E4317F	Violet Red2
Deep Pink	#F52887	Deep Pink
Deep Pink2	#E4287C	Deep Pink2
Deep Pink3	#C12267	Deep Pink3
Deep Pink4	#7D053F	Deep Pink4
Medium Violet Red	#CA226B	Medium Violet Red
Violet Red3	#C12869	Violet Red3
Firebrick	#800517	Firebrick
Violet Red4	#7D0541	Violet Red4
Maroon4	#7D0552	Maroon4
Maroon	#810541	Maroon
Maroon3	#C12283	Maroon3
Maroon2	#E3319D	Maroon2
Maroon1	#F535AA	Maroon1
Magenta	#FF00FF	Magenta
Magenta1	#F433FF	Magenta1
Magenta2	#E238EC	Magenta2
Magenta3	#C031C7	Magenta3
Medium Orchid	#B048B5	Medium Orchid
Medium Orchid1	#D462FF	Medium Orchid1
Medium Orchid2	#C45AEC	Medium Orchid2
Medium Orchid3	#A74AC7	Medium Orchid3
Medium Orchid4	#6A287E	Medium Orchid4
Purple	#8E35EF	Purple
Purple1	#893BFF	Purple1
Purple2	#7F38EC	Purple2
Purple3	#6C2DC7	Purple3
Purple4	#461B7E	Purple4
Dark Orchid4	#571B7e	Dark Orchid4
Dark Orchid	#7D1B7E	Dark Orchid

Colour Code Chart		
COLOUR NAME	CODE	COLOUR
Dark Violet	#842DCE	Dark Violet
Dark Orchid3	#8B31C7	Dark Orchid3
Dark Orchid2	#A23BEC	Dark Orchid2
Dark Orchid1	#B041FF	Dark Orchid1
Plum4	#7E587E	Plum4
Pale Violet Red	#D16587	Pale Violet Red
Pale Violet Red1	#F778A1	Pale Violet Red1
Pale Violet Red2	#E56E94	Pale Violet Red2
Pale Violet Red3	#C25A7C	Pale Violet Red3
Pale Violet Red4	#7E354D	Pale Violet Red4
Plum	#B93B8F	Plum
Plum1	#F9B7FF	Plum1
Plum2	#E6A9EC	Plum2
Plum3	#C38EC7	Plum3
Thistle	#D2B9D3	Thistle
Thistle3	#C6AEC7	Thistle3
Lavender Blush2	#EBDDE2	Lavender Blush2
Lavender Blush3	#C8BBBE	Lavender Blush3
Thistle2	#E9CFEC	Thistle2
Thistle1	#FCDFFF	Thistle1
Lavender	#E3E4FA	Lavender
Lavender Blush	#FDEEF4	Lavender Blush
Light Steel Blue1	#C6DEFF	Light Steel Blue1
Light Blue	#ADDFFF	Light Blue
Light Blue1	#BDEDFD	Light Blue1
Light Cyan	#E0FFFF	Light Cyan
Slate Gray1	#C2DFFF	Slate Gray1
Slate Gray2	#B4CFEC	Slate Gray2
Light Steel Blue2	#B7CEEC	Light Steel Blue2
Turquoise1	#52F3FF	Turquoise1
Cyan	#00FFFF	Cyan
Cyan1	#57FEFF	Cyan1
Cyan2	#50EBEC	Cyan2
Turquoise2	#4EE2EC	Turquoise2
Medium Turquoise	#48CCCD	Medium Turquoise
Turquoise	#43C6DB	Turquoise
Dark Slate Gray1	#9AFEFF	Dark Slate Gray1
Dark Slate Gray2	#8EEBEC	Dark slate Gray2
Dark Slate Gray3	#78c7c7	Dark Slate Gray3
Cyan3	#46C7C7	Cyan3
Turquoise3	#43BFC7	Turquoise3
Cadet Blue3	#77BFC7	Cadet Blue3
Pale Turquoise3	#92C7C7	Pale Turquoise3
Light Blue2	#AFDCEC	Light Blue2
Dark Turquoise	#3B9C9C	Dark Turquoise
Cyan4	#307D7E	Cyan4
Light Sea Green	#3EA99F	Light Sea Green
Light Sky Blue	#82CAFA	Light Sky Blue
Light Sky Blue2	#A0CFEC	Light Sky Blue2
Light Sky Blue3	#87AFC7	Light Sky Blue3
Sky Blue	#82CAFF	Sky Blue
Sky Blue2	#79BAEC	Sky Blue2
Light Sky Blue4	#566D7E	Light Sky Blue4
Sky Blue	#6698FF	Sky Blue
Light Slate Blue	#736AFF	Light Slate Blue

Colour Code Chart		
COLOUR NAME	CODE	COLOUR
Light Cyan2	#CFECEC	Light Cyan2
Light Cyan3	#AFC7C7	Light Cyan3
Light Cyan4	#717D7D	Light Cyan4
Light Blue3	#95B9C7	Light Blue3
Light Blue4	#5E767E	Light Blue4
Pale Turquoise4	#5E7D7E	Pale Turquoise4
Dark Sea Green4	#617C58	Dark Sea Green4
Medium Aquamarine	#348781	Medium Aquamarine
Medium Sea Green	#306754	Medium Sea Green
Sea Green	#4E8975	Sea Green
Dark Green	#254117	Dark Green
Sea Green4	#387C44	Sea Green4
Forest Green	#4E9258	Forest Green
Medium Forest Green	#347235	Medium Forest Green
Spring Green4	#347C2C	Spring Green4
Dark Olive Green4	#667C26	Dark Olive Green4
Chartreuse4	#437C17	Chartreuse4
Green4	#347C17	Green4
Medium Spring Green	#348017	Medium Spring Green
Spring Green	#4AA02C	Spring Green
Lime Green	#41A317	Lime Green
Spring Green	#4AA02C	Spring Green
Dark Sea Green	#8BB381	Dark Sea Green
Dark Sea Green3	#99C68E	Dark Sea Green3
Green3	#4CC417	Green3
Chartreuse3	#6CC417	Chartreuse3
Yellow Green	#52D017	Yellow Green
Spring Green3	#4CC552	Spring Green3
Sea Green3	#54C571	Sea Green3
Spring Green2	#57E964	Spring Green2
Spring Green1	#5EFB6E	Spring Green1
Sea Green2	#64E986	Sea Green2
Sea Green1	#6AFB92	Sea Green1
Dark Sea Green2	#B5EAAA	Dark Sea Green2
Dark Sea Green1	#C3FDB8	Dark Sea Green1
Green	#00FF00	Green
Lawn Green	#87F717	Lawn Green
Green1	#5FFB17	Green1
Green2	#59E817	Green2
Chartreuse2	#7FE817	Chartreuse2
Chartreuse	#8AFB17	Chartreuse
Green Yellow	#B1FB17	Green Yellow
Dark Olive Green1	#CCFB5D	Dark Olive Green1
Dark Olive Green2	#BCE954	Dark Olive Green2
Dark Olive Green3	#A0C544	Dark Olive Green3
Yellow	#FFFF00	Yellow
Yellow1	#FFFC17	Yellow1
Khaki1	#FFF380	Khaki1
Khaki2	#EDE275	Khaki2
Goldenrod	#EDDA74	Goldenrod
Gold2	#EAC117	Gold2
Gold1	#FDD017	Gold1
Goldenrod1	#FBB917	Goldenrod1
Goldenrod2	#E9AB17	Goldenrod2
Gold	#D4A017	Gold

Colour Code Chart		
COLOUR NAME	CODE	COLOUR
Gold3	#C7A317	Gold3
Goldenrod3	#C68E17	Goldenrod3
Dark Goldenrod	#AF7817	Dark Goldenrod
Khaki	#ADA96E	Khaki
Khaki3	#C9BE62	Khaki3
Khaki4	#827839	Khaki4
Dark Goldenrod1	#FBB117	Dark Goldenrod1
Dark Goldenrod2	#E8A317	Dark Goldenrod2
Dark Goldenrod3	#C58917	Dark Goldenrod3
Sienna1	#F87431	Sienna1
Sienna2	#E66C2C	Sienna2
Dark Orange	#F88017	Dark Orange
Dark Orange1	#F87217	Dark Orange1
Dark Orange2	#E56717	Dark Orange2
Dark Orange3	#C35617	Dark Orange3
Sienna3	#C35817	Sienna3
Sienna	#8A4117	Sienna
Sienna4	#7E3517	Sienna4
Indian Red4	#7E2217	Indian Red4
Dark Orange3	#7E3117	Dark Orange3
Salmon4	#7E3817	Salmon4
Dark Goldenrod4	#7F5217	Dark Goldenrod4
Gold4	#806517	Gold4
Goldenrod4	#805817	Goldenrod4
Light Salmon4	#7F462C	Light Salmon4
Chocolate	#C85A17	Chocolate
Coral3	#C34A2C	Coral3
Coral2	#E55B3C	Coral2
Coral	#F76541	Coral
Dark Salmon	#E18B6B	Dark Salmon
Salmon1	#F88158	Pale Turquoise4
Salmon2	#E67451	Salmon2
Salmon3	#C36241	Salmon3
Light Salmon3	#C47451	Light Salmon3
Light Salmon2	#E78A61	Light Salmon2
Light Salmon	#F9966B	Light Salmon
Sandy Brown	#EE9A4D	Sandy Brown
Hot Pink	#F660AB	Hot Pink
Hot Pink1	#F665AB	Hot Pink1
Hot Pink2	#E45E9D	Hot Pink2
Hot Pink3	#C25283	Hot Pink3
Hot Pink4	#7D2252	Hot Pink4
Light Coral	#E77471	Light Coral
Indian Red1	#F75D59	Indian Red1
Indian Red2	#E55451	Indian Red2
Indian Red3	#C24641	Indian Red3
Red	#FF0000	Red
Red1	#F62217	Red1
Red2	#E41B17	Red2
Firebrick1	#F62817	Firebrick1
Firebrick2	#E42217	Firebrick2
Firebrick3	#C11B17	Firebrick3
Pink	#FAAFBE	Pink
Rosy Brown1	#FBBB9B	Rosy Brown1
Rosy Brown2	#E8ADAA	Rosy Brown2

Colour Code Chart		
COLOUR NAME	CODE	COLOUR
Pink2	#E7A1B0	Pink2
Light Pink	#FAAFBA	Light Pink
Light Pink1	#F9A7B0	Light Pink1
Light Pink2	#E799A3	Light Pink2
Pink3	#C48793	Pink3
Rosy Brown3	#C5908E	Rosy Brown3
Rosy Brown	#B38481	Rosy Brown
Light Pink3	#C48189	Light Pink3
Rosy Brown4	#7F5A58	Rosy Brown4
Light Pink4	#7F4E52	Light Pink4
Pink4	#7F525D	Pink4
Lavender Blush4	#817679	Lavendar Blush4
Light Goldenrod4	#817339	Light Goldenrod4
Lemon Chiffon4	#827B60	Lemon Chiffon4
Lemon Chiffon3	#C9C299	Lemon Chiffon3
Light Goldenrod3	#C8B560	Light Goldenrod3
Light Golden2	#ECD672	Light Golden2
Light Goldenrod	#ECD872	Light Goldenrod
Light Goldenrod1	#FFE87C	Light Goldenrod1
Lemon Chiffon2	#ECE5B6	Lemon Chiffon2
Lemon Chiffon	#FFF8C6	Lemon Chiffon
Light Goldenrod Yellow	#FAF8CC	Light Goldenrod Yellow

Mathematical & other symbols for HTML

This Symbol entity reference includes mathematical symbols, Greek characters, various arrows, technical symbols and shapes.

These characters are acceptable within ARIES rather than Alt characters.

Note: Entity names are case sensitive.

Math Symbols Supported by HTML

Character	Entity Number	Entity Name	Description
\forall	∀	∀	for all
∂	∂	∂	part
\exists	∃	∃	exists
\emptyset	∅	∅	empty
∇	∇	∇	nabla
\in	∈	∈	isin
\notin	∉	∉	notin
\ni	∋	∋	ni
\prod	∏	∏	prod
\sum	∑	∑	sum
$-$	−	−	minus
$*$	∗	∗	lowast
$\sqrt{\quad}$	√	√	square root
\propto	∝	∝	proportional to
∞	∞	∞	infinity
\angle	∠	∠	angle
\wedge	∧	∧	and
\vee	∨	∨	or
\cap	∩	∩	cap
\cup	∪	∪	cup
\int	∫	∫	integral
\therefore	∴	∴	therefore
\sim	∼	∼	similar to
\cong	≅	≅	congruent to
\approx	≈	≈	almost equal
\neq	≠	≠	not equal
\equiv	≡	≡	equivalent
\leq	≤	≤	less or equal

≥	≥	≥	greater or equal
⊂	⊂	⊂	subset of
⊃	⊃	⊃	superset of
⊄	⊄	⊅	not subset of
⊆	⊆	⊆	subset or equal
⊇	⊇	⊇	superset or equal
⊕	⊕	⊕	circled plus
⊗	⊗	⊗	circled times
⊥	⊥	⊥	perpendicular
·	⋅	⋅	dot operator

ISO 8859-1 Symbols

Character	Entity Number	Entity Name	Description
	 	 	non-breaking space
¡	¡	¡	inverted exclamation mark
¢	¢	¢	cent
£	£	£	pound
¤	¤	¤	currency
¥	¥	¥	yen
	¦	¦	broken vertical bar
§	§	§	section
¨	¨	¨	spacing diaeresis
©	©	©	copyright
ª	ª	ª	feminine ordinal indicator
«	«	«	angle quotation mark (left)
¬	¬	¬	negation
	­	­	soft hyphen
®	®	®	registered trademark
—	¯	¯	spacing macron
°	°	°	degree
±	±	±	plus-or-minus
²	²	²	superscript 2
³	³	³	superscript 3
´	´	´	spacing acute
µ	µ	µ	micro
¶	¶	¶	paragraph
·	·	·	middle dot
¸	¸	¸	spacing cedilla
¹	¹	¹	superscript 1

°	º	º	masculine ordinal indicator
»	»	»	angle quotation mark (right)
¼	¼	¼	fraction 1/4
½	½	½	fraction 1/2
¾	¾	¾	fraction 3/4
¿	¿	¿	inverted question mark
×	×	×	multiplication
÷	÷	÷	division

ISO 8859-1 Characters

Character	Entity Number	Entity Name	Description
À	À	À	capital a, grave accent
Á	Á	Á	capital a, acute accent
Â	Â	Â	capital a, circumflex accent
Ã	Ã	Ã	capital a, tilde
Ä	Ä	Ä	capital a, umlaut mark
Å	Å	Å	capital a, ring
Æ	Æ	Æ	capital ae
Ç	Ç	Ç	capital c, cedilla
È	È	È	capital e, grave accent
É	É	É	capital e, acute accent
Ê	Ê	Ê	capital e, circumflex accent
Ë	Ë	Ë	capital e, umlaut mark
Ì	Ì	Ì	capital i, grave accent
Í	Í	Í	capital i, acute accent
Î	Î	Î	capital i, circumflex accent
Ï	Ï	Ï	capital i, umlaut mark
Ð	Ð	Ð	capital eth, Icelandic
Ñ	Ñ	Ñ	capital n, tilde
Ò	Ò	Ò	capital o, grave accent
Ó	Ó	Ó	capital o, acute accent
Ô	Ô	Ô	capital o, circumflex accent
Õ	Õ	Õ	capital o, tilde
Ö	Ö	Ö	capital o, umlaut mark
Ø	Ø	Ø	capital o, slash
Ù	Ù	Ù	capital u, grave accent
Ú	Ú	Ú	capital u, acute accent
Û	Û	Û	capital u, circumflex accent
Ü	Ü	Ü	capital u, umlaut mark
Ý	Ý	Ý	capital y, acute accent

Þ	Þ	Þ	capital THORN, Icelandic
ß	ß	ß	small sharp s, German
à	à	à	small a, grave accent
á	á	´	small a, acute accent
â	â	â	small a, circumflex accent
ã	ã	ã	small a, tilde
ä	ä	ä	small a, umlaut mark
å	å	å	small a, ring
æ	æ	æ	small ae
ç	ç	ç	small c, cedilla
è	è	è	small e, grave accent
é	é	é	small e, acute accent
ê	ê	ê	small e, circumflex accent
ë	ë	ë	small e, umlaut mark
ì	ì	ì	small i, grave accent
í	í	í	small i, acute accent
î	î	î	small i, circumflex accent
ï	ï	ï	small i, umlaut mark
ð	ð	ð	small eth, Icelandic
ñ	ñ	ñ	small n, tilde
ò	ò	ò	small o, grave accent
ó	ó	ó	small o, acute accent
ô	ô	ô	small o, circumflex accent
õ	õ	õ	small o, tilde
ö	ö	ö	small o, umlaut mark
ø	ø	ø	small o, slash
ù	ù	ù	small u, grave accent
ú	ú	ú	small u, acute accent
û	û	û	small u, circumflex accent
ü	ü	ü	small u, umlaut mark
ý	ý	ý	small y, acute accent
þ	þ	þ	small thorn, Icelandic
ÿ	ÿ	ÿ	small y, umlaut mark

Other Entities Supported by HTML

Character	Entity Number	Entity Name	Description
Œ	Œ	Œ	capital ligature OE
œ	œ	œ	small ligature oe
Š	Š	Š	capital S with caron
š	š	š	small S with caron

Ÿ	Ÿ	Ÿ	capital Y with diaeres
f	ƒ	ƒ	f with hook
^	ˆ	ˆ	modifier letter circumflex accent
~	˜	˜	small tilde
	 	 	en space
	 	 	em space
	 	 	thin space
	‌	‌	zero width non-joiner
	‍	‍	zero width joiner
	‎	‎	left-to-right mark
	‏	‏	right-to-left mark
—	–	–	en dash
—	—	—	em dash
‘	‘	‘	left single quotation mark
’	’	’	right single quotation mark
,	‚	‚	single low-9 quotation mark
“	“	“	left double quotation mark
”	”	”	right double quotation mark
„	„	„	double low-9 quotation mark
†	†	†	dagger
‡	‡	‡	double dagger
•	•	•	bullet
...	…	…	horizontal ellipsis
‰	‰	‰	per mille
′	′	′	minutes
″	″	″	seconds
∠	‹	‹	single left angle quotation
∧	›	›	single right angle quotation
—	‾	‾	overline
€	€	€	euro
™	™	™	trademark
←	←	←	left arrow
↑	↑	↑	up arrow
→	→	→	right arrow
↓	↓	↓	down arrow
↔	↔	↔	left right arrow
↵	↵	↵	carriage return arrow
⌈	⌈	⌈	left ceiling
⌋	⌉	⌉	right ceiling
⌊	⌊	⌊	left floor

┘	⌋	⌋	right floor
◇	◊	◊	lozenge
♠	♠	♠	spade
♣	♣	♣	club
♥	♥	♥	heart
♦	♦	♦	diamond

Special Characters Cheat Sheet

Description	Symbol / Char	Alt codes	Unicode (hex)	ASCII (decimal)	ASCII (hex)	URL Encoded (AS2)	URL Encoded (AS3)	HTML 4 Entity Number	HTML 4 Entity Name	Escape Sequence	Flash charCodeAt	Flash keyCode (UK keyboard)
NULL	NUL	n/a	U+0000	0	0000	n/a	n/a	n/a				
START OF HEADING	SOH	n/a	U+0001	1	0001	n/a	n/a	n/a				
START OF TEXT	STX	n/a	U+0002	2	0002	n/a	n/a	n/a				
END OF TEXT	ETX	n/a	U+0003	3	0003	n/a	n/a	n/a				
END OF TRANSMISSION	EOT	n/a	U+0004	4	0004	n/a	n/a	n/a				
ENQUIRY	ENQ	n/a	U+0005	5	0005	n/a	n/a	n/a				
ACKNOWLEDGE	ACK	n/a	U+0006	6	0006	n/a	n/a	n/a				
BELL (AUDIBLE SIGNAL)	BEL	n/a	U+0007	7	0007	n/a	n/a	n/a				
BACKSPACE	BS	Alt+0008	U+0008	8	0008	%08	%08	n/a		\u0008 or \b		8 (backspace key)
HORIZONTAL TAB	HT	Alt+0009	U+0009	9	0009	%09	%09	n/a		\u0009 or \t		9 (tab key)
LINE FEED	LF	n/a	U+000A	10	000A	n/a	n/a	n/a				
VERTICAL TAB	VT	n/a	U+000B	11	000B	n/a	n/a	n/a				
FORM FEED	FF	Alt+0012	U+000C	12	000C	%0C	%0C	n/a		\f		
CARRIAGE RETURN	CR	Alt+0013	U+000D	13	000D	%0D	%0D	n/a		\u000D or \n or \r		13 (enter key)
SHIFT OUT	SO	n/a	U+000E	14	000E	n/a	n/a	n/a				
SHIFT IN	SI	n/a	U+000F	15	000F	n/a	n/a	n/a				
DATA LINK ESCAPE	DLE	n/a	U+0010	16	0010	n/a	n/a	n/a				16 (shift key)
DEVICE CONTROL 1	DC1	n/a	U+0011	17	0011	n/a	n/a	n/a				17 (ctrl key)
DEVICE CONTROL 2	DC2	n/a	U+0012	18	0012	n/a	n/a	n/a				
DEVICE CONTROL 3	DC3	n/a	U+0013	19	0013	n/a	n/a	n/a				19 (pause-break key)
DEVICE CONTROL 4	DC4	n/a	U+0014	20	0014	n/a	n/a	n/a				20 (caps lock key)
NEGATIVE ACKNOWLEDGE	NAK	n/a	U+0015	21	0015	n/a	n/a	n/a				
SYNCHRONOUS IDLE	SYN	n/a	U+0016	22	0016	n/a	n/a	n/a				
END OF TRANSMISSION BLOCK	ETB	n/a	U+0017	23	0017	n/a	n/a	n/a				
CANCEL	CAN	n/a	U+0018	24	0018	n/a	n/a	n/a				
END OF MEDIUM	EM	n/a	U+0019	25	0019	n/a	n/a	n/a				
SUBSTITUTE	SUB	n/a	U+001A	26	001A	n/a	n/a	n/a				
ESCAPE	ESC	n/a	U+001B	27	001B	n/a	n/a	n/a				27 (escape key)
FILE SEPARATOR	FS	n/a	U+001C	28	001C	n/a	n/a	n/a				
GROUP SEPARATOR	GS	n/a	U+001D	29	001D	n/a	n/a	n/a				
RECORD SEPARATOR	RS	n/a	U+001E	30	001E	n/a	n/a	n/a				
UNIT SEPARATOR	US	n/a	U+001F	31	001F	n/a	n/a	n/a				
SPACE	SP	Alt+0032	U+0020	32	0020	%20	%20	 		\u0020	32	32
EXCLAMATION MARK	!	Alt+0033	U+0021	33	0021	%21	%21	!		\u0021	33	49
QUOTATION MARK (aka DOUBLE QUOTE)	"	Alt+0034	U+0022	34	0022	%22	%22	"	"	\u0022 or \"	34	50
NUMBER SIGN (aka HASH)	#	Alt+0035	U+0023	35	0023	%23	%23	#		\u0023	35	222
DOLLAR SIGN	\$	Alt+0036	U+0024	36	0024	%24	%24	$		\u0024	36	52
PERCENT SIGN	%	Alt+0037	U+0025	37	0025	%25	%25	%		\u0025	37	53
AMPERSAND	&	Alt+0038	U+0026	38	0026	%26	%26	&	&	\u0026	38	55
APOSTROPHE (aka SINGLE QUOTE)	'	Alt+0039	U+0027	39	0027	%27	%27	'	'	\u0027 or \'	39	192
LEFT PARENTHESIS (aka OPEN BRACKET)	(Alt+0040	U+0028	40	0028	%28	%28	(\u0028	40	57
RIGHT PARENTHESIS (aka CLOSE BRACKET))	Alt+0041	U+0029	41	0029	%29	%29)		\u0029	41	48
ASTERISK	*	Alt+0042	U+002A	42	002A	%2A	*	*		\u002A	42	56
PLUS SIGN	+	Alt+0043	U+002B	43	002B	%2B	+	+		\u002B	43	187 or 107
COMMA	,	Alt+0044	U+002C	44	002C	%2C	%2C	,		\u002C	44	188
HYPHEN-MINUS	-	Alt+0045	U+002D	45	002D	%2D	-	-		\u002D	45	189
FULL STOP	.	Alt+0046	U+002E	46	002E	%2E	.	.		\u002E	46	190 or 110
SOLIDUS (aka SLASH)	/	Alt+0047	U+002F	47	002F	%2F	/	/		\u002F	47	191 or 111

Description	Symbol / Char	Alt codes	Unicode (hex)	ASCII (decimal)	ASCII (hex)	URL Encoded (AS2)	URL Encoded (AS3)	HTML 4 Entity Number	HTML 4 Entity Name	Escape Sequence	Flash charCodeAt	Flash keyCode (UK keyboard)
DIGIT ZERO	0	Alt+0048	U+0030	48	0030	0	0	0		\u0030	48	48 or 96
DIGIT ONE	1	Alt+0049	U+0031	49	0031	1	1	1		\u0031	49	49 or 97
DIGIT TWO	2	Alt+0050	U+0032	50	0032	2	2	2		\u0032	50	50 or 98
DIGIT THREE	3	Alt+0051	U+0033	51	0033	3	3	3		\u0033	51	51 or 99
DIGIT FOUR	4	Alt+0052	U+0034	52	0034	4	4	4		\u0034	52	52 or 100
DIGIT FIVE	5	Alt+0053	U+0035	53	0035	5	5	5		\u0035	53	53 or 101
DIGIT SIX	6	Alt+0054	U+0036	54	0036	6	6	6		\u0036	54	54 or 102
DIGIT SEVEN	7	Alt+0055	U+0037	55	0037	7	7	7		\u0037	55	55 or 103
DIGIT EIGHT	8	Alt+0056	U+0038	56	0038	8	8	8		\u0038	56	56 or 104
DIGIT NINE	9	Alt+0057	U+0039	57	0039	9	9	9		\u0039	57	57 or 105
COLON	:	Alt+0058	U+003A	58	003A	%3A	%3A	:		\u003A	58	186
SEMICOLON	;	Alt+0059	U+003B	59	003B	%3B	%3B	;		\u003B	59	186
LESS-THAN SIGN	<	Alt+0060	U+003C	60	003C	%3C	%3C	<	<	\u003C	60	188
EQUALS SIGN	=	Alt+0061	U+003D	61	003D	%3D	%3D	=		\u003D	61	187
GREATER_THAN SIGN	>	Alt+0062	U+003E	62	003E	%3E	%3E	>	>	\u003E	62	190
QUESTION MARK	?	Alt+0063	U+003F	63	003F	%3F	%3F	?		\u003F	63	191
COMMERCIAL AT	@	Alt+0064	U+0040	64	0040	%40	@	@		\u0040	64	192
LATIN CAPITAL LETTER A	A	Alt+0065	U+0041	65	0041	A	A	A		\u0041	65	65
LATIN CAPITAL LETTER B	B	Alt+0066	U+0042	66	0042	B	B	B		\u0042	66	66
LATIN CAPITAL LETTER C	C	Alt+0067	U+0043	67	0043	C	C	C		\u0043	67	67
LATIN CAPITAL LETTER D	D	Alt+0068	U+0044	68	0044	D	D	D		\u0044	68	68
LATIN CAPITAL LETTER E	E	Alt+0069	U+0045	69	0045	E	E	E		\u0045	69	69
LATIN CAPITAL LETTER F	F	Alt+0070	U+0046	70	0046	F	F	F		\u0046	70	70
LATIN CAPITAL LETTER G	G	Alt+0071	U+0047	71	0047	G	G	G		\u0047	71	71
LATIN CAPITAL LETTER H	H	Alt+0072	U+0048	72	0048	H	H	H		\u0048	72	72
LATIN CAPITAL LETTER I	I	Alt+0073	U+0049	73	0049	I	I	I		\u0049	73	73
LATIN CAPITAL LETTER J	J	Alt+0074	U+004A	74	004A	J	J	J		\u004A	74	74
LATIN CAPITAL LETTER K	K	Alt+0075	U+004B	75	004B	K	K	K		\u004B	75	75
LATIN CAPITAL LETTER L	L	Alt+0076	U+004C	76	004C	L	L	L		\u004C	76	76
LATIN CAPITAL LETTER M	M	Alt+0077	U+004D	77	004D	M	M	M		\u004D	77	77
LATIN CAPITAL LETTER N	N	Alt+0078	U+004E	78	004E	N	N	N		\u004E	78	78
LATIN CAPITAL LETTER O	O	Alt+0079	U+004F	79	004F	O	O	O		\u004F	79	79
LATIN CAPITAL LETTER P	P	Alt+0080	U+0050	80	0050	P	P	P		\u0050	80	80
LATIN CAPITAL LETTER Q	Q	Alt+0081	U+0051	81	0051	Q	Q	Q		\u0051	81	81
LATIN CAPITAL LETTER R	R	Alt+0082	U+0052	82	0052	R	R	R		\u0052	82	82
LATIN CAPITAL LETTER S	S	Alt+0083	U+0053	83	0053	S	S	S		\u0053	83	83
LATIN CAPITAL LETTER T	T	Alt+0084	U+0054	84	0054	T	T	T		\u0054	84	84
LATIN CAPITAL LETTER U	U	Alt+0085	U+0055	85	0055	U	U	T		\u0055	85	85
LATIN CAPITAL LETTER V	V	Alt+0086	U+0056	86	0056	V	V	V		\u0056	86	86
LATIN CAPITAL LETTER W	W	Alt+0087	U+0057	87	0057	W	W	W		\u0057	87	87
LATIN CAPITAL LETTER X	X	Alt+0088	U+0058	88	0058	X	X	X		\u0058	88	88
LATIN CAPITAL LETTER Y	Y	Alt+0089	U+0059	89	0059	Y	Y	Y		\u0059	89	89
LATIN CAPITAL LETTER Z	Z	Alt+0090	U+005A	90	005A	Z	Z	Z		\u005A	90	90
LEFT SQUARE BRACKET	[Alt+0091	U+005B	91	005B	%5B	%5B	[\u005B	91	219
REVERSE SOLIDUS (aka BACKSLASH)	\	Alt+0092	U+005C	92	005C	%5C	%5C	\		\u005C or \\	92	220
RIGHT SQUARE BRACKET]	Alt+0093	U+005D	93	005D	%5D	%5D]		\u005D	93	221
CIRCUMFLEX ACCENT (aka HIGH HAT)	^	Alt+0094	U+005E	94	005E	%5E	%5E	^		\u005E	94	54
LOW LINE (aka UNDERSCORE)	_	Alt+0095	U+005F	95	005F	%5F	_	_		\u005F	95	189
GRAVE ACCENT	`	Alt+0096	U+0060	96	0060	%60	%60	`		\u0060	96	223
LATIN SMALL LETTER A	a	Alt+0097	U+0061	97	0061	a	a	a		\u0061	97	65
LATIN SMALL LETTER B	b	Alt+0098	U+0062	98	0062	b	b	b		\u0062	98	66
LATIN SMALL LETTER C	c	Alt+0099	U+0063	99	0063	c	c	c		\u0063	99	67
LATIN SMALL LETTER D	d	Alt+0100	U+0064	100	0064	d	d	d		\u0064	100	68
LATIN SMALL LETTER E	e	Alt+0101	U+0065	101	0065	e	e	e		\u0065	101	69
LATIN SMALL LETTER F	f	Alt+0102	U+0066	102	0066	f	f	f		\u0066	102	70

Description	Symbol / Char	Alt codes	Unicode (hex)	ASCII (decimal)	ASCII (hex)	URL Encoded (AS2)	URL Encoded (AS3)	HTML 4 Entity Number	HTML 4 Entity Name	Escape Sequence	Flash charCodeAt	Flash keyCode (UK keyboard)
LATIN SMALL LETTER G	g	Alt+0103	U+0067	103	0067	g	g	g		\u0067	103	71
LATIN SMALL LETTER H	h	Alt+0104	U+0068	104	0068	h	h	h		\u0068	104	72
LATIN SMALL LETTER I	i	Alt+0105	U+0069	105	0069	i	i	i		\u0069	73	73
LATIN SMALL LETTER J	j	Alt+0106	U+006A	106	006A	j	j	j		\u006A	106	74
LATIN SMALL LETTER K	k	Alt+0107	U+006B	107	006B	k	k	k		\u006B	107	75
LATIN SMALL LETTER L	l	Alt+0108	U+006C	108	006C	l	l	l		\u006C	108	76
LATIN SMALL LETTER M	m	Alt+0109	U+006D	109	006D	m	m	m		\u006D	109	77
LATIN SMALL LETTER N	n	Alt+0110	U+006E	110	006E	n	n	n		\u006E	110	78
LATIN SMALL LETTER O	o	Alt+0111	U+006F	111	006F	o	o	o		\u006F	111	79
LATIN SMALL LETTER P	p	Alt+0112	U+0070	112	0070	p	p	p		\u0070	112	80
LATIN SMALL LETTER Q	q	Alt+0113	U+0071	113	0071	q	q	q		\u0071	113	81
LATIN SMALL LETTER R	r	Alt+0114	U+0072	114	0072	r	r	r		\u0072	114	82
LATIN SMALL LETTER S	s	Alt+0115	U+0073	115	0073	s	s	s		\u0073	115	83
LATIN SMALL LETTER T	t	Alt+0116	U+0074	116	0074	t	t	t		\u0074	116	84
LATIN SMALL LETTER U	u	Alt+0117	U+0075	117	0075	u	u	u		\u0075	117	85
LATIN SMALL LETTER V	v	Alt+0118	U+0076	118	0076	v	v	v		\u0076	118	86
LATIN SMALL LETTER W	w	Alt+0119	U+0077	119	0077	w	w	w		\u0077	119	87
LATIN SMALL LETTER X	x	Alt+0120	U+0078	120	0078	x	x	x		\u0078	120	88
LATIN SMALL LETTER Y	y	Alt+0121	U+0079	121	0079	y	y	y		\u0079	121	89
LATIN SMALL LETTER Z	z	Alt+0122	U+007A	122	007A	z	z	z		\u007A	122	90
LEFT CURLY BRACKET (aka OPENING BRACKET)	{	Alt+0123	U+007B	123	007B	%7B	%7B	{		\u007B	123	219
VERTICAL LINE (aka PIPE or BAR)		Alt+0124	U+007C	124	007C	%7C	%7C	|		\u007C	124	220
RIGHT CURLY BRACKET (aka CLOSING BRACKET)	}	Alt+0125	U+007D	125	007D	%7D	%7D	}		\u007D	125	221
TILDE (aka EQUIVALENCY SIGN)	~	Alt+0126	U+007E	126	007E	%7E	%7E	~		\u007E	126	222
DELETE	DEL	n/a	n/a	127	007F	n/a	n/a	n/a		n/a	n/a	46 (delete key)
EURO SIGN	€	Alt+0128	U+20AC	128	0080	%C2%80	%80	n/a		\u20AC	8364	
		n/a	n/a	129	n/a	n/a	n/a	n/a		n/a	n/a	
SINGLE LOW-9 QUOTATION MARK	,	Alt+0130	U+201A	130	0082	%C2%82	%82	n/a		\u201A	8218	
LATIN SMALL LETTER F WITH HOOK	ƒ	Alt+0131	U+0192	131	0083	%C2%83	%83	n/a		\u0192	402	
DOUBLE LOW-9 QUOTATION MARK	„	Alt+0132	U+201E	132	0084	%C2%84	%84	n/a		\u201E	8222	
HORIZONTAL ELLIPSIS	…	Alt+0133	U+2026	133	0085	%C2%85	%85	n/a		\u2026	8230	
DAGGER	†	Alt+0134	U+2020	134	0086	%C2%86	%86	n/a		\u2020	8224	
DOUBLE DAGGER	‡	Alt+0135	U+2021	135	0087	%C2%87	%87	n/a		\u2021	8225	
MODIFIER LETTER CIRCUMFLEX ACCENT	ˆ	Alt+0136	U+20C6	136	0088	%C2%88	%88	n/a		\u20C6	710	
PER MILLE SIGN	‰	Alt+0137	U+2030	137	0089	%C2%89	%89	n/a		\u2030	8240	
LATIN CAPITAL LETTER S WITH CARON	Š	Alt+0138	U+0160	138	008A	%C2%8A	%8A	n/a		\u0160	352	
SINGLE LEFT-POINTING ANGLE QUOTATION MARK	‹	Alt+0139	U+2039	139	008B	%C2%8B	%8B	n/a		\u2039	8249	
LATIN CAPITAL LIGATURE OE	Œ	Alt+0140	U+0152	140	008C	%C2%8C	%8C	n/a		\u0152	338	
		n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	
LATIN CAPITAL LETTER Z WITH CARON	Ž	Alt+0142	U+017D	142	008E	%C2%8E	%8E	n/a		\u017D	381	
		n/a	n/a	143	n/a	n/a	n/a	n/a		n/a	n/a	
		n/a	n/a	144	n/a	n/a	n/a	n/a		n/a	n/a	
LEFT SINGLE QUOTATION MARK	‘	Alt+0145	U+2018	145	0091	%C2%91	%91	n/a		\u2018	8216	
RIGHT SINGLE QUOTATION MARK	’	Alt+0146	U+2019	146	0092	%C2%92	%92	n/a		\u2019	8217	
LEFT DOUBLE QUOTATION MARK	“	Alt+0147	U+201C	147	0093	%C2%93	%93	n/a		\u201C	8220	
RIGHT DOUBLE QUOTATION MARK	”	Alt+0148	U+201D	148	0094	%C2%94	%94	n/a		\u201D	8221	
BULLET	•	Alt+0149	U+2022	149	0095	%C2%95	%95	n/a		\u2022	8226	
EN DASH	—	Alt+0150	U+2013	150	0096	%C2%96	%96	n/a		\u2013	8211	
EM DASH	—	Alt+0151	U+2014	151	0097	%C2%97	%97	n/a		\u2014	8212	
SMALL TILDE	˘	Alt+0152	U+02DC	152	0098	%C2%98	%98	n/a		\u02DC	732	
TRADE MARK SIGN	™	Alt+0153	U+2122	153	0099	%C2%99	%99	n/a		\u2122	8482	
LATIN SMALL LETTER S WITH CARON	š	Alt+0154	U+0161	154	009A	%C2%9A	%9A	n/a		\u0161	353	
SINGLE RIGHT-POINTING ANGLE QUOTATION MARK	›	Alt+0155	U+203A	155	009B	%C2%9B	%9B	n/a		\u203A	8250	

Description	Symbol / Char	Alt codes	Unicode (hex)	ASCII (decimal)	ASCII (hex)	URL Encoded (AS2)	URL Encoded (AS3)	HTML 4 Entity Number	HTML 4 Entity Name	Escape Sequence	Flash charCodeAt	Flash keyCode (UK keyboard)
LATIN SMALL LIGATURE OE	œ	Alt+0156 n/a	U+0153 n/a	156 n/a	009C n/a	%C2%9C n/a	%9C n/a	n/a n/a		\u0153 n/a	339 n/a	
LATIN SMALL LETTER Z WITH CARON	ž	Alt+0158	U+017E	158	009E	%C2%9E	%9E	n/a		\u017E	382	
LATIN CAPITAL LETTER Y WITH DIAERES	ÿ	Alt+0159	U+0178	159	009F	%C2%9F	%9F	n/a		\u0178	376	
NO-BREAK SPACE		Alt+0160	U+00A0	160	00A0	%C2%A0	%A0	 	 	\u00A0	160	
INVERTED EXCLAMATION MARK	¡	Alt+0161	U+00A1	161	00A1	%C2%A1	%A1	¡	¡	\u00A1	161	
CENT SIGN	¢	Alt+0162	U+00A2	162	00A2	%C2%A2	%A2	¢	¢	\u00A2	162	
POUND SIGN	£	Alt+0163	U+00A3	163	00A3	%C2%A3	%A3	£	£	\u00A3	163	
CURRENCY SIGN	¤	Alt+0164	U+00A4	164	00A4	%C2%A4	%A4	¤	¤	\u00A4	164	
YEN SIGN	¥	Alt+0165	U+00A5	165	00A5	%C2%A5	%A5	¥	¥	\u00A5	165	
BROKEN BAR		Alt+0166	U+00A6	166	00A6	%C2%A6	%A6	¦	¦	\u00A6	166	
SECTION SIGN	§	Alt+0167	U+00A7	167	00A7	%C2%A7	%A7	§	§	\u00A7	167	
DIAERESIS (aka UMLAUT)	¨	Alt+0168	U+00A8	168	00A8	%C2%A8	%A8	¨	¨	\u00A8	168	
COPYRIGHT SIGN	©	Alt+0169	U+00A9	169	00A9	%C2%A9	%A9	©	©	\u00A9	169	
FEMININE ORDINAL INDICATOR	ª	Alt+0170	U+00AA	170	00AA	%C2%AA	%AA	ª	ª	\u00AA	170	
LEFT-POINTING DOUBLE ANGLE QUOTAT	«	Alt+0171	U+00AB	171	00AB	%C2%AB	%AB	«	«	\u00AB	171	
NOT SIGN	¬	Alt+0172	U+00AC	172	00AC	%C2%AC	%AC	¬	¬	\u00AC	172	
SOFT HYPHEN	-	Alt+0173	U+00AD	173	00AD	%C2%AD	%AD	­	­	\u00AD	173	
REGISTERED SIGN	®	Alt+0174	U+00AE	174	00AE	%C2%AE	%AE	®	®	\u00AE	174	
MACRON	—	Alt+0175	U+00AF	175	00AF	%C2%AF	%AF	¯	¯	\u00AF	175	
DEGREE SIGN	°	Alt+0176	U+00B0	176	00B0	%C2%B0	%B0	°	°	\u00B0	176	
PLUS-MINUS SIGN	±	Alt+0177	U+00B1	177	00B1	%C2%B1	%B1	±	±	\u00B1	177	
SUPERSCRIPIT TWO	²	Alt+0178	U+00B2	178	00B2	%C2%B2	%B2	²	²	\u00B2	178	
SUPERSCRIPIT THREE	³	Alt+0179	U+00B3	179	00B3	%C2%B3	%B3	³	³	\u00B3	179	
ACUTE ACCENT	´	Alt+0180	U+00B4	180	00B4	%C2%B4	%B4	´	´	\u00B4	180	
MICRO SIGN	µ	Alt+0181	U+00B5	181	00B5	%C2%B5	%B5	µ	µ	\u00B5	181	
PILCROW SIGN	¶	Alt+0182	U+00B6	182	00B6	%C2%B6	%B6	¶	¶	\u00B6	182	
MIDDLE DOT	·	Alt+0183	U+00B7	183	00B7	%C2%B7	%B7	·	·	\u00B7	183	
CEDILLA	¸	Alt+0184	U+00B8	184	00B8	%C2%B8	%B8	¸	¸	\u00B8	184	
SUPERSCRIPIT ONE	¹	Alt+0185	U+00B9	185	00B9	%C2%B9	%B9	¹	¹	\u00B9	185	
MASCULINE ORDINAL INDICATOR	º	Alt+0186	U+00BA	186	00BA	%C2%BA	%BA	º	º	\u00BA	186	
RIGHT-POINTING DOUBLE ANGLE QUOT/	»	Alt+0187	U+00BB	187	00BB	%C2%BB	%BB	»	»	\u00BB	187	
VULGAR FRACTION ONE QUARTER	¼	Alt+0188	U+00BC	188	00BC	%C2%BC	%BC	¼	¼	\u00BC	188	
VULGAR FRACTION ONE HALF	½	Alt+0189	U+00BD	189	00BD	%C2%BD	%BD	½	½	\u00BD	189	
VULGAR FRACTION THREE QUARTERS	¾	Alt+0190	U+00BE	190	00BE	%C2%BE	%BE	¾	¾	\u00BE	190	
INVERTED QUESTION MARK	¿	Alt+0191	U+00BF	191	00BF	%C2%BF	%BF	¿	¿	\u00BF	191	
LATIN CAPITAL LETTER A WITH GRAVE	À	Alt+0192	U+00C0	192	00C0	%C3%80	%C0	À	À	\u00C0	192	
LATIN CAPITAL LETTER A WITH ACUTE	Á	Alt+0193	U+00C1	193	00C1	%C3%81	%C1	Á	Á	\u00C1	193	
LATIN CAPITAL LETTER A WITH CIRCUMF	Â	Alt+0194	U+00C2	194	00C2	%C3%82	%C2	Â	Â	\u00C2	194	
LATIN CAPITAL LETTER A WITH TILDE	Ã	Alt+0195	U+00C3	195	00C3	%C3%83	%C3	Ã	Ã	\u00C3	195	
LATIN CAPITAL LETTER A WITH DIAERES	Ä	Alt+0196	U+00C4	196	00C4	%C3%84	%C4	Ä	Ä	\u00C4	196	
LATIN CAPITAL LETTER A WITH RING AB	Å	Alt+0197	U+00C5	197	00C5	%C3%85	%C5	Å	Å	\u00C5	197	
LATIN CAPITAL LETTER AE	Æ	Alt+0198	U+00C6	198	00C6	%C3%86	%C6	Æ	Æ	\u00C6	198	
LATIN CAPITAL LETTER C WITH CEDILLA	Ç	Alt+0199	U+00C7	199	00C7	%C3%87	%C7	Ç	Ç	\u00C7	199	
LATIN CAPITAL LETTER E WITH GRAVE	È	Alt+0200	U+00C8	200	00C8	%C3%88	%C8	È	È	\u00C8	200	
LATIN CAPITAL LETTER E WITH ACUTE	É	Alt+0201	U+00C9	201	00C9	%C3%89	%C9	É	É	\u00C9	201	
LATIN CAPITAL LETTER E WITH CIRCUMF	Ê	Alt+0202	U+00CA	202	00CA	%C3%8A	%CA	Ê	Ê	\u00CA	202	
LATIN CAPITAL LETTER E WITH DIAERES	Ë	Alt+0203	U+00CB	203	00CB	%C3%8B	%CB	Ë	Ë	\u00CB	203	
LATIN CAPITAL LETTER I WITH GRAVE	Ì	Alt+0204	U+00CC	204	00CC	%C3%8C	%CC	Ì	Ì	\u00CC	204	
LATIN CAPITAL LETTER I WITH ACUTE	Í	Alt+0205	U+00CD	205	00CD	%C3%8D	%CD	Í	Í	\u00CD	205	
LATIN CAPITAL LETTER I WITH CIRCUMFI	Î	Alt+0206	U+00CE	206	00CE	%C3%8E	%CE	Î	Î	\u00CE	206	
LATIN CAPITAL LETTER I WITH DIAERES	Ï	Alt+0207	U+00CF	207	00CF	%C3%8F	%CF	Ï	Ï	\u00CF	207	
LATIN CAPITAL LETTER ETH	Ð	Alt+0208	U+00D0	208	00D0	%C3%90	%D0	Ð	Ð	\u00D0	208	

Description	Symbol / Char	Alt codes	Unicode (hex)	ASCII (decimal)	ASCII (hex)	URL Encoded (AS2)	URL Encoded (AS3)	HTML 4 Entity Number	HTML 4 Entity Name	Escape Sequence	Flash charCodeAt	Flash keyCode (UK keyboard)
LATIN CAPITAL LETTER N WITH TILDE	Ñ	Alt+0209	U+00D1	209	00D1	%C3%91	%D1	Ñ	Ñ	\u00D1	209	
LATIN CAPITAL LETTER O WITH GRAVE	Ö	Alt+0210	U+00D2	210	00D2	%C3%92	%D2	Ò	Ò	\u00D2	210	
LATIN CAPITAL LETTER O WITH ACUTE	Ó	Alt+0211	U+00D3	211	00D3	%C3%93	%D3	Ó	Ó	\u00D3	211	
LATIN CAPITAL LETTER O WITH CIRCUMFLEX	Ô	Alt+0212	U+00D4	212	00D4	%C3%94	%D4	Ô	Ô	\u00D4	212	
LATIN CAPITAL LETTER O WITH TILDE	Õ	Alt+0213	U+00D5	213	00D5	%C3%95	%D5	Õ	Õ	\u00D5	213	
LATIN CAPITAL LETTER O WITH DIAERESIS	Ö	Alt+0214	U+00D6	214	00D6	%C3%96	%D6	Ö	Ö	\u00D6	214	
MULTIPLICATION SIGN	×	Alt+0215	U+00D7	215	00D7	%C3%97	%D7	×	×	\u00D7	215	
LATIN CAPITAL LETTER O WITH STROKE	Ø	Alt+0216	U+00D8	216	00D8	%C3%98	%D8	Ø	Ø	\u00D8	216	
LATIN CAPITAL LETTER U WITH GRAVE	Û	Alt+0217	U+00D9	217	00D9	%C3%99	%D9	Ù	Ù	\u00D9	217	
LATIN CAPITAL LETTER U WITH ACUTE	Ú	Alt+0218	U+00DA	218	00DA	%C3%9A	%DA	Ú	Ú	\u00DA	218	
LATIN CAPITAL LETTER U WITH CIRCUMFLEX	Û	Alt+0219	U+00DB	219	00DB	%C3%9B	%DB	Û	Û	\u00DB	219	
LATIN CAPITAL LETTER U WITH DIAERESIS	Ü	Alt+0220	U+00DC	220	00DC	%C3%9C	%DC	Ü	Ü	\u00DC	220	
LATIN CAPITAL LETTER Y WITH ACUTE	Ý	Alt+0221	U+00DD	221	00DD	%C3%9D	%DD	Ý	Ý	\u00DD	221	
LATIN CAPITAL LETTER THORN	Þ	Alt+0222	U+00DE	222	00DE	%C3%9E	%DE	Þ	Þ	\u00DE	222	
LATIN SMALL LETTER SHARP S	ß	Alt+0223	U+00DF	223	00DF	%C3%9F	%DF	ß	ß	\u00DF	223	
LATIN SMALL LETTER A WITH GRAVE	à	Alt+0224	U+00E0	224	00E0	%C3%A0	%E0	à	à	\u00E0	224	
LATIN SMALL LETTER A WITH ACUTE	á	Alt+0225	U+00E1	225	00E1	%C3%A1	%E1	á	á	\u00E1	225	
LATIN SMALL LETTER A WITH CIRCUMFLEX	â	Alt+0226	U+00E2	226	00E2	%C3%A2	%E2	â	â	\u00E2	226	
LATIN SMALL LETTER A WITH TILDE	ã	Alt+0227	U+00E3	227	00E3	%C3%A3	%E3	ã	ã	\u00E3	227	
LATIN SMALL LETTER A WITH DIAERESIS	ä	Alt+0228	U+00E4	228	00E4	%C3%A4	%E4	ä	ä	\u00E4	228	
LATIN SMALL LETTER A WITH RING ABOVE	å	Alt+0229	U+00E5	229	00E5	%C3%A5	%E5	å	&raring;	\u00E5	229	
LATIN SMALL LETTER AE	æ	Alt+0230	U+00E6	230	00E6	%C3%A6	%E6	æ	æ	\u00E6	230	
LATIN SMALL LETTER C WITH CEDILLA	ç	Alt+0231	U+00E7	231	00E7	%C3%A7	%E7	ç	ç	\u00E7	231	
LATIN SMALL LETTER E WITH GRAVE	è	Alt+0232	U+00E8	232	00E8	%C3%A8	%E8	è	è	\u00E8	232	
LATIN SMALL LETTER E WITH ACUTE	é	Alt+0233	U+00E9	233	00E9	%C3%A9	%E9	é	é	\u00E9	233	
LATIN SMALL LETTER E WITH CIRCUMFLEX	ê	Alt+0234	U+00EA	234	00EA	%C3%AA	%EA	ê	ê	\u00EA	234	
LATIN SMALL LETTER E WITH DIAERESIS	ë	Alt+0235	U+00EB	235	00EB	%C3%AB	%EB	ë	ë	\u00EB	235	
LATIN SMALL LETTER I WITH GRAVE	ì	Alt+0236	U+00EC	236	00EC	%C3%AC	%EC	ì	ì	\u00EC	236	
LATIN SMALL LETTER I WITH ACUTE	í	Alt+0237	U+00ED	237	00ED	%C3%AD	%ED	í	í	\u00ED	237	
LATIN SMALL LETTER I WITH CIRCUMFLEX	î	Alt+0238	U+00EE	238	00EE	%C3%AE	%EE	î	î	\u00EE	238	
LATIN SMALL LETTER I WITH DIAERESIS	ï	Alt+0239	U+00EF	239	00EF	%C3%AF	%EF	ï	ï	\u00EF	239	
LATIN SMALL LETTER ETH	ð	Alt+0240	U+00F0	240	00F0	%C3%B0	%F0	ð	ð	\u00F0	240	
LATIN SMALL LETTER N WITH TILDE	ñ	Alt+0241	U+00F1	241	00F1	%C3%B1	%F1	ñ	ñ	\u00F1	241	
LATIN SMALL LETTER O WITH GRAVE	ò	Alt+0242	U+00F2	242	00F2	%C3%B2	%F2	ò	ò	\u00F2	242	
LATIN SMALL LETTER O WITH ACUTE	ó	Alt+0243	U+00F3	243	00F3	%C3%B3	%F3	ó	ó	\u00F3	243	
LATIN SMALL LETTER O WITH CIRCUMFLEX	ô	Alt+0244	U+00F4	244	00F4	%C3%B4	%F4	ô	ô	\u00F4	244	
LATIN SMALL LETTER O WITH TILDE	õ	Alt+0245	U+00F5	245	00F5	%C3%B5	%F5	õ	õ	\u00F5	245	
LATIN SMALL LETTER O WITH DIAERESIS	ö	Alt+0246	U+00F6	246	00F6	%C3%B6	%F6	ö	ö	\u00F6	246	
DIVISION SIGN	÷	Alt+0247	U+00F7	247	00F7	%C3%B7	%F7	÷	÷	\u00F7	247	
LATIN SMALL LETTER O WITH STROKE	ø	Alt+0248	U+00F8	248	00F8	%C3%B8	%F8	ø	ø	\u00F8	248	
LATIN SMALL LETTER U WITH GRAVE	ù	Alt+0249	U+00F9	249	00F9	%C3%B9	%F9	ù	ù	\u00F9	249	
LATIN SMALL LETTER U WITH ACUTE	ú	Alt+0250	U+00FA	250	00FA	%C3%BA	%FA	ú	ú	\u00FA	250	
LATIN SMALL LETTER U WITH CIRCUMFLEX	û	Alt+0251	U+00FB	251	00FB	%C3%BB	%FB	û	û	\u00FB	251	
LATIN SMALL LETTER U WITH DIAERESIS	ü	Alt+0252	U+00FC	252	00FC	%C3%BC	%FC	ü	ü	\u00FC	252	
LATIN SMALL LETTER Y WITH ACUTE	ý	Alt+0253	U+00FD	253	00FD	%C3%BD	%FD	ý	ý	\u00FD	253	
LATIN SMALL LETTER THORN	þ	Alt+0254	U+00FE	254	00FE	%C3%BE	%FE	þ	þ	\u00FE	254	
LATIN SMALL LETTER Y WITH DIAERESIS	ÿ	Alt+0255	U+00FF	255	00FF	%C3%BF	%FF	ÿ	ÿ	\u00FF	255	