

# ASCII code

ASCII Code, or American Standard Code for Information Interchange, is the most common character encoding format for text data in computers and on the Internet.

In standard ASCII-encoded data, there are unique values for:

- control characters from 00 to 31 and 127;
- printable characters from 32 to 126 which include both lower and upper case alphabetic letters and symbols;
- extended characters from 128 to 255 which include other alphabetical letters and symbols.



Today, most modern computer systems use Unicode, also known as the Unicode Worldwide Character Standard. It's a character encoding standard that includes ASCII encodings.

## ■ How to write ASCII characters

Digit ALT on your keyboard followed by the decimal number.

- If you want to print the character ü, you have to digit ALT followed by 129.


Code Char	Code Char	Code Char	Code Char
0 NUL (null)	32 SPACE	64 @	96 `
1 SOH (start of heading)	33 !	65 A	97 a
2 STX (start of text)	34 "	66 B	98 b
3 ETX (end of text)	35 #	67 C	99 c
4 EOT (end of transmission)	36 \$	68 D	100 d
5 ENQ (enquiry)	37 %	69 E	101 e
6 ACK (acknowledge)	38 &	70 F	102 f
7 BEL (bell)	39 '	71 G	103 g
8 BS (backspace)	40 (	72 H	104 h
9 TAB (horizontal tab)	41 )	73 I	105 i
10 LF (NL line feed, new line)	42 *	74 J	106 j
11 VT (vertical tab)	43 +	75 K	107 k
12 FF (NP form feed, new page)	44 ,	76 L	108 l
13 CR (carriage return)	45 -	77 M	109 m
14 SO (shift out)	46 .	78 N	110 n
15 SI (shift in)	47 /	79 O	111 o
16 DLE (data link escape)	48 0	80 P	112 p
17 DC1 (device control 1)	49 1	81 Q	113 q
18 DC2 (device control 2)	50 2	82 R	114 r
19 DC3 (device control 3)	51 3	83 S	115 s
20 DC4 (device control 4)	52 4	84 T	116 t
21 NAK (negative acknowledge)	53 5	85 U	117 u
22 SYN (synchronous idle)	54 6	86 V	118 v
23 ETB (end of trans. block)	55 7	87 W	119 w
24 CAN (cancel)	56 8	88 X	120 x
25 EM (end of medium)	57 9	89 Y	121 y
26 SUB (substitute)	58 :	90 Z	122 z
27 ESC (escape)	59 ;	91 [	123 {
28 FS (file separator)	60 <	92 \	124
29 GS (group separator)	61 =	93 ]	125 }
30 RS (record separator)	62 >	94 ^	126 ~
31 US (unit separator)	63 ?	95 _	127 DEL

Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Ch
128	80	Ā	160	A0	á	192	C0	Ĺ	224	E0	α
129	81	ù	161	A1	í	193	C1	Ľ	225	E1	β
130	82	é	162	A2	ó	194	C2	Ť	226	E2	Γ
131	83	â	163	A3	ú	195	C3	Ŧ	227	E3	π
132	84	ä	164	A4	ñ	196	C4	—	228	E4	Σ
133	85	à	165	A5	Ñ	197	C5	†	229	E5	σ
134	86	ã	166	A6	ª	198	C6	‡	230	E6	μ
135	87	ç	167	A7	º	199	C7	‡	231	E7	τ
136	88	ê	168	A8	¿	200	C8	ℓ	232	E8	ϕ
137	89	ë	169	A9	ƒ	201	C9	ℓ	233	E9	Θ
138	8A	è	170	AA	ƒ	202	CA	ℓ	234	EA	Ω
139	8B	ì	171	AB	½	203	CB	ℓ	235	EB	ϑ
140	8C	ï	172	AC	¾	204	CC	ℓ	236	EC	∞
141	8D	î	173	AD	;	205	CD	=	237	ED	∞
142	8E	Ë	174	AE	«	206	CE	≠	238	EE	ε
143	8F	Ë	175	AF	»	207	CF	±	239	EF	∩
144	90	É	176	B0	⋯	208	DO	±	240	FO	≡
145	91	æ	177	B1	⋯	209	D1	≠	241	F1	±
146	92	Æ	178	B2	⋯	210	D2	≠	242	F2	≥
147	93	ó	179	B3		211	D3	ℓ	243	F3	≤
148	94	ö	180	B4	†	212	D4	ℓ	244	F4	∫
149	95	ò	181	B5	‡	213	D5	ℓ	245	F5	∫
150	96	û	182	B6	‡	214	D6	ℓ	246	F6	÷
151	97	ù	183	B7	‡	215	D7	‡	247	F7	≈
152	98	ÿ	184	B8	‡	216	D8	‡	248	F8	•
153	99	Û	185	B9	‡	217	D9	‡	249	F9	•
154	9A	Û	186	BA	‡	218	DA	‡	250	FA	•
155	9B	◊	187	BB	‡	219	DB	■	251	FB	√
156	9C	£	188	BC	‡	220	DC	■	252	FC	•
157	9D	¥	189	BD	‡	221	DD	■	253	FD	•
158	9E	€	190	BE	‡	222	DE	■	254	FE	■
159	9F	ƒ	191	BF	‡	223	DF	■	255	FF	□

**1**  Look at the ASCII table of extended characters and find out the numbers that you have to print.

➤ ä = ALT 132

- 1. Ö .....
- 2. Æ .....
- 3. Ñ .....
- 4. Å .....
- 5. £ .....
- 6. { .....
- 7. ^ .....
- 8. & .....
- 9. @ .....
- 10. ÿ .....

**2**  Read the text and complete it with the missing grammatical words.

**Brief History of ASCII Code**

ASCII code was created in 1963 **1.** ..... the “American Standards Association” Committee or “ASA” to reorder and expand the set of symbols and characters already used in telegraphy **2.** ..... that time by the Bell company. At first, it only included capital letters and numbers, but **3.** ..... 1967 lowercase letters and some control characters were added, forming what **4.** ..... known as US-ASCII, i.e. the characters from 0 to 127. So, with this set of only 128 characters, it was published in 1967 **5.** ..... a standard. In 1981, IBM developed an extension of 8-bit ASCII code, called “code page 437”. In this version, some

obsolete control characters were replaced and another 128 characters **6.** ..... added, with new symbols, signs, graphics and Latin letters, all punctuation signs and characters needed to write texts in other languages, such as Spanish. In this way, the ASCII characters ranged from 128 to 255. IBM included support **7.** ..... this code page in the hardware of its model 5150, known as “IBM-PC”, considered the first personal computer. The operating system **8.** ..... this model, the “MS-DOS”, also used this extended ASCII code. Almost all computer systems today use the ASCII code to represent characters and texts.

### 3 Look at the table and compare ASCII and Unicode.

ASCII	Unicode
ASCII stands for American Standard Code for Information Interchange.	Unicode is known as universal character set or universal coding system.
ASCII is the standard that encodes characters for communication.	Unicode is the IT standard that encodes text for computers and other communication devices.
It has two standards: 7 bit ASCII – 128 characters 8 bit ASCII – 256 characters.	It has three standards: UTF-8 256 UTF-16 65536 UTF-32 4294967296. UTF stands for Unicode Transformation Format.
ASCII supports specific characters and occupies less space.	Unicode supports large numbers of characters and occupies more space.