American Standard Code for Information Interchange

0	00	1	01	2	02	3	03	4	4 04		5 05		06	7 07		8	8 08		9 SP 09		10 SP 0A		11 SP 0B		12 SP 0C		13 SP 0D		14 OE		15 OF	
N	UL	S	ОН		STX		ETX		EOT	E	NQ	1	ACK	BE	EL 🌲		BS ←		HT 🔄		LF		VT		FF		R ←		so	S	SI	
cntrl /	@ \0 d	cntrl /	·Α	cntrl	^B	cntr	^C	cntrl	^D	cntrl	^E	cntrl	^F	cntrl	^G \a	cnt	rl ^H \	b c	entrl <mark>^ </mark> \	cntrl	ı ^J \n	cntrl	^K \v	cntrl	^L \f	cntrl	^M \r	cntrl	^N	cntrl ^	0	
16	10	17 ×	ON 11	18	12	19	XOFF 13	20	14	21	15	22	16	23	17	24	1 1	.8 2	25 1	9 26	1A	27	1B	28	10	29	1D	30	1E	31	1F	
D	LE	D	C1	DC2			DC3		DC4		NAK		SYN		ETB		CAN		EM		SUB		ESC		FS		GS		RS		IS	
cntrl	^P	cntrl 4	^Q	cntrl	^R	cntr	^\$	cntrl	^T	cntrl	^U	cntrl	^\	cntrl	^W	cnt	rl <mark>^X</mark>	С	entrl <mark>^Y</mark>	cntrl	^Z	cntrl	^[\e	cntrl	^\	cntrl	^]	cntrl	۸۸	cntrl ^		
32	SP 20	33	21	34	22	35	23	36	24	37	25	38	26	39	27	40) 2	28	41 2	9 42	2 A	43	2B	44	20	45	2D	46	2E	47	2F	
(SP	ACE)	graph	!	graph	11	graph	#	graph	\$	graph	%	graph	&	graph	1	graph	(grapi	gran	graph	*	graph	+	graph	,	graph	-	graph		graph	/	
print	,	_	punct	print	punct	print	punct	print	punct	print	punct	print	punct	print	punct	prii	nt pund	ct p	orint punct	print	punct	print	punct	print	punct	print	punct	print	punct	print	ounct	
48	30	49	31	50	32	51	33	52	34	53	35	54	36	55	37	56	5 3	88 5	57 3:	9 58	3A	59	3B	60	30	61	3D	62	3E	63	3 F	
graph	0	graph	1	graph	2	graph	3	graph	4	graph	5	graph	6	graph	7	graph	8	graph	9	graph	:	graph	;	graph	<	graph	=	graph	>	graph	?	
print	digit	print	digit	print	digit	print	digit	print	digit	print	digit	print	digit	print	digit	prii	nt digi	t p	orint digit	print	punct	print	punct	print	punct	print	punct	print	punct	print	ounct	
64	40	65	U 41	66	U 42	67	U 43	68	U 44	69	U 45	70	U 46	71	U 47	72	<u> </u>	8 7	73 U 4:	9 74	U 4A	75	U 4B	76	U 4C	77	U 4D	78	U 4E	79	J 4F	
graph	@	graph	A	graph	В	graph	С	graph	D	grapi	E	graph	F	grapi	G	graph	Н	grapi	gran	graph	J	grapi	K	graph	L	grapi	M	graph	N	graph	0	
print	punct	print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	prii	nt alph	a p	orint alpha	print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	
80																			39 U 5				5B			93		94	5E		5 F	
grap	Р	grap	Q	grapi	R	grap	S	grapi	Т	grap	U	grapi	V	grap	W	grap	X	grap	Y	grap	Z	grapi	ſ	grapi	\	grapi	1	grapi	Λ	grap		
print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	print	alpha	prii	nt alph	a p	orint alpha	print	alpha	print	punct	print	punct	print	punct	print	punct	print	ounct	
96	60	97	L 61	98	L 62	99	L 63	100	L 64	101	L 65	102	L 66	103	L 67	10	4 L 6	8 1	105 L 69	9 106	6A	107	6B	108	L 60	109	6D	110	[6E	111	6F	
grap	•	grap	a	grap	b	grap		grap	_d	grap	e	grap	f	grap	 σ	grap	h	S d d		grap	i	grap	k	grap		grap	 m	grap	n	grap	_ O	
nrint	nunct	nrint	alnha	nrint	alnha	nrint	alnha	nrint	alnha	orint	alnha	nrint	alnha	nrint	alnha	nrii	nt alph	a n	orint alpha	nrint	alnha	nrint	alnha	orint	alnha	nrint		orint	alnha	nrint	alnha	
																			121 L 7							125		126	7E	127	7 F	
grap	n	grap	a	grap	r	grap	S	grap	t	grap	u	grap	V	grap	w	grap	X	Pig	- V	grap	7	grap	{	grap	- 1	grap	}	grap	~	D	EL	
nrint	alpha	ਤ nrint ■	alpha	5 nrint	alnha	nrint	alnha) nrint	alnha	j Print	alnha	5 print	alnha	nrint	alnha) pri	nt alph	2 5	erint alpha	nrint	alnha	nrint	nunct	j nrint	nunct) →	nunct	j nrint	nunct			
print	aipiia	print	aipiia	print	aipila	print	aipiia	prilit	aipiia	print	аірпа	Print	aipiia	prilit	aipiia	þm	alpli	a P	aipiic	print	aipiia	print	pullet	prilit	pullet	print	pullet	print	pullet	CHUI	1	

NUL→Null character SOH→Start of Header STX→Start of Text ETX→End of Text EOT→End of Transmission ENQ→Enquiry ACK→Acknowledgment BEL→Bell BS→Backspace HT→Horizontal Tab LF→Line feed VT→Vertical Tab FF→Form feed CR→Carriage return SO→Shift Out SI→Shift In DLE→Data Link Escape DC1→Device Control 1 (oft. XON) DC2→Device Control 2 DC3→Device Control 3 (oft. XOFF) DC4→Device Control 4 NAK→Negative Acknowledgment SYN→Synchronous idle ETB→End of Transmission Block CAN→Cancel EM→End of Medium SUB→Substitute ESC→Escape FS→File Separator GS→Group Separator RS→Record Separator US→Unit Separator DEL→Delete

Escape code [C] Caret notation

isalpha (alpha) $A \rightarrow Z$ $a \rightarrow z$ isdigit (digit) 0 > 9

 $A \rightarrow Z$ $a \rightarrow z$ $0 \rightarrow 9$

isalnum (alpha/digit) iscntrl (cntrl) $0x00 \rightarrow 0x1F$ 0x7F isupper (U) $A \rightarrow Z$

isspace (SP) $0x09 \rightarrow 0x0D$ 0x20 islower (L) $a \rightarrow z$

ispunct (punct)

<u>isxdigit</u> isgraph (graph) **0** → **9** ! → ~ isprint (print) $\bm{A} \ \rightarrow \ \bm{F}$! → ~ $\mathbf{a} \rightarrow \mathbf{f}$ 0x20