

ASCII NUMBER CODE CHART (IN DECIMAL)

Code	Char	Meaning	Code	Char
0	NUL	Null (nothing;idle)	64	@
1	SOH	Start of Heading	65	A
2	STX	Start of Text	66	B
3	ETX	End of Text	67	C
4	EOT	End of Transmission	68	D
5	ENQ	Enquiry or Who are You?	69	E
6	ACK	Acknowledged	70	F
7	BEL	Bell or Alarm	71	G
8	BS	Backspace	72	H
9	HT	Horizontal Tabulation	73	I
10	LF	Line Feed	74	J
11	VT	Vertical Tabulation	75	K
12	FF	Form Feed	76	L
13	CR	Carriage Return	77	M
14	SO	Shift Out	78	N
15	SI	Shift In	79	O
16	DLE	Data Link Escape	80	P
17	DC1	Device Control #1	81	Q
18	DC2	Device Control #2	82	R
19	DC3	Device Control #3	83	S
20	DC4	Device Control #4	84	T
21	NAK	Not Acknowledged	85	U
22	SYN	Synchronize	86	V
23	ETB	End of Transmission Block	87	W
24	CAN	Cancel	88	X
25	EM	End of Medium	89	Y
26	SUB	Substitute	90	Z
27	ESC	Escape	91	[
28	FS	File Separator	92	\
29	GS	Group Separator	93]
30	RS	Record Separator	94	^
31	US	Unit Separator	95	_
32	Sp	Space	96	`
33	!		97	a
34	"		98	b
35	#		99	c
36	\$		100	d
37	%		101	e
38	&		102	f
39	'		103	g
40	(104	h
41)		105	i
42	*		106	j
43	+		107	k
44	,		108	l
45	-		109	m
46	.		110	n
47	/		111	o
48	0		112	p
49	1		113	q
50	2		114	r
51	3		115	s
52	4		116	t
53	5		117	u
54	6		118	v
55	7		119	w
56	8		120	x
57	9		121	y
58	:		122	z
59	:		123	{
60	<		124	
61	=		125	}
62	>		126	~
63	?		127	DElete

Relational Operators	
Symbol	Meaning
=	Is equal to
>	Is greater than
<	Is less than
>=	Is greater than or equal to
<=	Is less than or equal to
<>	Does not equal

Chart of Precedence for Math and Boolean Operations		
Done first	NOT	Boolean
Done next	↑	Exponentiation
Done next	* /	Mathematical
Done next	+ -	Mathematical
Done next	< <= = <> >= >	Relational
Done next	OR	Boolean
Done last	AND	Boolean

BASIC DIRECT COMMAND STATEMENTS

STATEMENT	WHAT IT DOES	EXAMPLE OF USE	EXAMPLE PRINTOUT
LOAD	Loads specified program from tape	*LOAD "Program Name"	
DUMP	Dumps program to tape	*DUMP "Program Name"	
RUN	Starts program execution	*RUN	
SCRATCH	Deletes current program	*SCRATCH SURE? Y	
VERIFY	Verifies proper checksum on a tape	*VERIFY "Program Name"	
BUILD	Automatically generates line numbers	*BUILD 100,10 100 110 120	100 (LINE INPUT BY USER) @ 110
DELETE	Deletes program lines	*DELETE 250,290	Deletes all lines from 250 to 290
LIST	Causes current program to be printed on CRT or printer	*LIST	10 LET A=1 20 LET B=2 30 LET C=3 260 LET Z=26 270 PRINT A+Z 280 END

BENTON HARBOR BASIC STATEMENT REFERENCE CARD

STATEMENT	WHAT IT DOES	EXAMPLE OF USE	EXAMPLE PRINTOUT
ABS	Returns argument as positive value	10 PRINT ABS(6);ABS(-6);ABS(2*3);ABS(2*-3)	6 6 6 6
AND	Bitwise Boolean operation on 2 arguments	10 PRINT 50 AND 26	18
ASC	Returns number code of string character	10 A\$="HEDGE":PRINT ASC("H");ASC(A\$)	72 72
ATN	Returns arctangent of argument in radians	10 PRINT ATN(.305669)	.296649
CHR\$	Returns string character of number code argument	10 PRINT CHR\$(72)	H
CLEAR	Sets variables to zero	10 A=6:B=8:CLEAR B:PRINT A;B::CLEAR:PRINT A;B	6 0 0 0
CONTINUE	Resumes program execution	10 PRINT "HEDGE":STOP 20 PRINT "HOG"	HEDGE *CONTINUE HOG
COS	Returns cosine of argument in radians	10 PRINT COS(.29665)	.956321
DEF	Defines User Function	10 DEF FN E(X,Y)=X*Y:A=2:B=3:PRINT FN E(A,B)	6
DIM	Reserves space for arrays	10 DIM A(6).B\$(6,6)	
END	Marks logical end of program	10 END	
EXP	Returns antilogarithm to base e of argument	10 PRINT EXP(2.83321)	17
FOR...NEXT	Establishes multiple iteration program loop	10 FOR I=1 TO 5:PRINT 2*I;:NEXT I	2 4 6 8 10
GOSUB...RETURN	Executes sub-program	10 PRINT "HEDGE":GOSUB 20:STOP 20 PRINT "HOG":RETURN	HEDGEHOG
GOTO	Causes jump in program execution	10 PRINT "HEDGE":GOTO 20 20 PRINT "HOG"	HEDGEHOG
IF...THEN	Makes relational test; if outcome is "true", performs Statements following THEN	10 IF 2>3 THEN PRINT "GREATER":STOP 20 PRINT "LESS"	LESS
INPUT	Obtains data from keyboard	10 INPUT "NUMBER, PLEASE? ";A:PRINT A	NUMBER, PLEASE? 76
INT	Discards decimal portion of argument	10 PRINT INT(3.14159)	3
LEFT\$	Isolates leftmost characters of string	10 PRINT LEFT\$("HEDGEHOG",5)	HEDGE
LEN	Returns length of string	10 PRINT LEN("HEDGEHOG")	8
LET	Makes assignment to variables (Use is optional)	10 LET A=2:B=3:PRINT A*B	6
LINE INPUT	Obtains string data from keyboard; quotation marks not required	10 LINE INPUT "NAME? ",N\$:PRINT N\$	NAME? WILLARD WILLARD
LOG	Returns logarithm to base e of argument	10 PRINT LOG(17)	2.83321
MAX	Returns maximum value in list of arguments	10 PRINT MAX(1,2,3,-1,-2,-3)	3
MID\$	Isolates middle characters of string argument	10 PRINT MID\$("HEDGEHOG",2,3)	EDG
MIN	Returns minimum value in list of arguments	10 PRINT MIN(1,2,3,-1,-2,-3)	-3
NOT	Bitwise complement of one argument	10 PRINT NOT 65535	0
ON...GOSUB	Argument selects line number from list for execution of sub-program	10 A=2:ON A GOSUB 20,30,40:STOP 20 PRINT "FIRST POSITION":RETURN 30 PRINT "SECOND POSITION":RETURN 40 PRINT "THIRD POSITION":RETURN	SECOND POSITION

STATEMENT	WHAT IT DOES	EXAMPLE OF USE	EXAMPLE PRINTOUT
ON....GOTO	Argument selects line number from list for program execution jump	10 A=2:ON A GOTO 20,30,40 20 PRINT "1":STOP 30 PRINT "2":STOP 40 PRINT "3":STOP	2
OR	Bitwise Boolean operation on 2 arguments	10 PRINT 50 OR 26	58
OUT	Outputs argument to specified computer port	10 OUT 18,7	(Outputs 7 to port 18)
PEEK	Returns data byte stored at specified memory address	10 PRINT PEEK(32000)	147 (typical)
PIN	Obtains data from specified computer port	10 PRINT PIN(18)	7 (typical)
POKE	Stores data byte at specified memory address	10 POKE 32000,147	(stores 147 at address 32000)
POS	Returns line position where next character will print	10 PRINT "HEDGE";:A=POS(0):PRINT "HOG";A	HEDGEHOG 6
PRINT	Outputs data to CRT or printer	10 A=6:PRINT 2;2*A,A	2 12 6
READ....DATA	Assigns data to variables from program resident list	10 READ A,B:PRINT A*B 20 DATA 2,3	6
REM	Marks rest of line as programmer's comment	10 REM THIS IS A REMARK:PRINT A;"HEDGE"	(nothing is printed)
RESTORE	Returns pointer to first DATA item in program	10 READ A,B:PRINT A*B;:RESTORE:READ A,B:PRINT A+B 20 DATA 2,3,4,5,6	6 5
RIGHT\$	Isolates rightmost characters of string	10 PRINT RIGHT\$("HEDGEHOG",3)	HOG
RND	Returns pseudo-random number. Argument specifies new seed if < 0, repeat last number if = 0, next number in sequence if > 0	10 PRINT RND(-1) 20 PRINT RND(0) 30 PRINT RND(1)	6.25305E-02 6.25305E-02 3.93677E-03
SGN	Returns sign of argument	10 PRINT SGN(-3);SGN(3-3);SGN(3+3)	-1 0 1
SIN	Returns sine of argument (in radians)	10 PRINT SIN(.29665)	.292318
SPC	Prints number of spaces specified by argument	10 PRINT "HEDGE";SPC(8);"HOG"	HEDGE HOG
SQR	Returns square root of argument	10 PRINT SQR(25)	5
STEP	Specifies increment value FOR NEXT loop	10 FOR I=0 TO 10 STEP 2:PRINT I;:NEXT I	0 2 4 6 8 10
STOP	Causes program execution to stop but may be CONTINUED	10 PRINT "HEDGE":STOP 20 PRINT "HOG"	HEDGE <u>*CONTINUE</u> HOG
STR\$	Converts numeric argument to string	10 A=76:PRINT STR\$(A)+"TROMBONES"	76 TROMBONES
TAB	Argument specifies line position to print next character	10 PRINT "HEDGE";TAB(8);"HOG"	HEDGE HOG
TAN	Returns tangent of argument in radians	10 PRINT TAN(.29665)	.305669
TO	See FOR NEXT		
VAL	Converts string argument to numeric value	10 A\$="76":PRINT VAL(A\$)	76