

Summary of BASIC Statement - Assumes all statements begin with a line number.

LET LET <variable> = <expression> 10 LET X1 = Y + Z + (Z/A - B+D1)

READ READ <variable> , <variable> ... , <variable> 10 READ X, Y, Z, A1, Q(I,J)

INPUT INPUT <number> , <number> , ... , <number> 10 INPUT X, Y, Z, A1, Q (I,J)

DATA DATA <number> , <number> , ... , <number> 10 DATA 1.2,-3.7,123.479, -2.35E-4

PRINT PRINT <label> , or <label><expression> , or <expression> 10 PRINT "SINE", "X = "X(I,K).A.B*COS(Y)

GOTO GOTO line number 10 GOTO 17 *what are the relations*

IF-THEN IF <expression> <relational> <expression> THEN <line number> 10 IF X+Y>0 THEN 419

FOR FOR <unsubscripted variable> = <expression> TO <expression> STEP <expression> 10 FOR I = 1 TO 17
10 FOR X1 = 0 TO 7 STEP 0.5

NEXT NEXT <unsubscripted variable> 10 NEXT X1 *- N (= NOOP ?)*

END END 10 END

STOP STOP 10 STOP

DEF DEF FN <letter> (<unsubscripted variable>) = <expression> 10 DEF FNG (Z)=1+SQR (1+Z*Z)

GOSUB GOSUB <line number> 10 GOSUB 110

RETURN RETURN 10 RETURN

DIM DIM <letter> (<integer>) , or <letter> (<integer> , <integer>) 10 DIM A(17),B(3,20) *Dimension?*

REM REM <any string of characters whatsoever> 10 REM THIS IS THE END OF APPENDIX C (for example)

BASIC has available to the user the following functions:

| FUNCTIONS | PURPOSE |
|-----------|---|
| SIN (X) | Sine of X |
| COS (X) | Cosine of X |
| TAN (X) | Tangent of X |
| ATN (X) | Arctangent of X |
| EXP (X) | Natural exponential of X, e ^x |
| ABS (X) | Absolute value of X X |
| LOG (X) | Natural logarithm of X |
| SQR (X) | Square root of X |
| RND (X) | Generates a random number between zero and one at each call |
| INT (X) | Integer part of X |

X must be in radians

| Error Message | Interpretation |
|---------------------|---|
| DIMENSION TOO LARGE | The size of a list or table is too large for the available storage. |
| ILLEGAL CONSTANT | More than nine digits or incorrect form in a constant number. |
| ILLEGAL FORMULA | Indicates missing parentheses, illegal variable names, missing multiply signs, illegal numbers, or many other errors. |
| ILLEGAL RELATION | Something is wrong with the relational expression in an IF-THEN statement. |
| ILLEGAL LINE NUMBER | Line number is of incorrect form, or contains more than five digits. |
| ILLEGAL INSTRUCTION | Other than one of the fifteen legal BASIC instructions has been used. |
| ILLEGAL VARIABLE | An illegal variable name has been used. |
| INCORRECT FORMAT | The format of an instruction is wrong. See especially IF-THEN's and FOR's. |
| END IS NOT LAST | Self-explanatory. |
| NO END INSTRUCTION | The program has no END statement. |
| NO DATA | There is at least one READ statement in the program, but no DATA statements. |
| UNDEFINED FUNCTION | A function such as FNF () has been used without appearing in a DEF statement. |
| UNDEFINED NUMBER | The statement number appearing in a GOTO or IF-THEN statement does not appear as a line number in the program. |
| PROGRAM TOO LONG | Either the program itself is too long for the available storage, or there are too many constants and printed labels. |
| TOO MUCH DATA | There is too much data in the program. |
| TOO MANY LABELS | The total length of all printed labels in the program exceeds the limit. |
| TOO MANY LOOPS | There are too many FOR-NEXT combinations. The upper limit is 26. |
| NOT MATCH WITH FOR | An incorrect NEXT statement, perhaps with a wrong variable given. Also, check for incorrectly nested FOR statements. |
| FOR WITHOUT NEXT | A missing NEXT statement. This message can also occur in conjunction with the previous one. |
| SUBSCRIPT ERROR | A subscript has been called for that lies outside the range specified in the DIM statement. |
| ILLEGAL RETURN | Occurs if a RETURN is encountered before the first GOSUB during the running of a program. |