

## Variables and Operators

### Variables

Variables in Advan BASIC may be integer, real, or string. Integer variables must end with a % sign and string variables with a \$ sign. All other characters must be capital letters, numbers, or periods. No spaces are permitted. The following are valid names:

<u>Integers</u>	<u>Real</u>	<u>String</u>
ALPHA%	TAX	NAME\$
B%	AMOUNT	ADDRESS\$
BETA.C2%	C	LAST.NAME\$

All characters in a name are significant, including the % and \$ symbols. Thus, NAME\$ and NAME% are different variables. Appendix B contains the reserved words which may not be used as variables. Also note that because names starting with FN are reserved for functions, no variable names may begin with FN.

Integers have a maximum value of 32767 and a minimum value of -32768 (however, the smallest integer constant is -32767). Integer constants must end with a % sign. Each integer variable requires two bytes of memory space. The following are valid integer statements:

```
A%=B%+2%  C%=(C%+30000%)/(-3%)
```

Each real variable requires six bytes of memory and, depending on the number, nine or ten significant digits are held. The absolute value of a real number must be zero or greater than  $10^{-99}$  and less than  $10^{99}$ . The following are valid real statements:

```
A=B+5  COUNT=(COUNT+3)/(-6)
```

Note that real and integer variables can be mixed in a statement. The program will have to make conversions, however, resulting in some loss of speed. These are legal expressions:

```
A=B%+2%  B%=(A+2%)/3
```

If integer and real variables and/or constants are mixed in an expression, the program will convert an integer to a real number when forced to do a numerical operation between them. If an integer variable is set equal to a real number, the real number is converted to an integer (it is rounded, not truncated) and the variable is set equal to the integer. For example:

```
10 A%=3.7
20 PRINT A%
RUN
4
```

String variables have a maximum length of 256 bytes. Unlike ATARI BASIC, strings in Advan BASIC do not have to be dimensioned.