refer to a variable by its name, which can be arbitrarily long, although only its first eight characters are remembered. The first character must be a letter and other characters must be letters or digits, but some combinations of letters cannot be used. A variable name cannot be the same as or contain a reserved word (a function or command name -- see the list in Appendix 3). The following are legal XYBASIC variable names.

```
A
B3
BOY
DOG
LENGTHYNAME (identical to LENGTHYN)
```

The following are NOT legal variable names.

```
1A      first character not a letter
#A      first character not a letter
A#      character not a letter or digit
RND     reserved word
PORT    contains the reserved word OR
```

XYBASIC's long variable names can be very helpful to you. You should always try to choose meaningful variable names. If a variable name reminds you of its use, you are less likely to use it incorrectly in a program.

XYBASIC initializes all numeric variables to zero. That is, a value of 0 is put in each variable's "box" when the variable is first encountered.

XYBASIC allows three different types of variables: floating point, integer, and string. A variable name may optionally end in !, %, or $. If it ends in a letter or digit, or in the character !, it represents a floating point variable. The value stored in a floating point variable may be any number. If the variable name ends in the character %, it represents an integer variable. The value stored in an integer variable must be an integer in the range -32768 to 32767. If the variable name ends in the character $, it represents a string variable. The value stored in a string variable is a sequence of 0 to 255 characters, as described in Section 4 below. Additional information about variable types in Extended XYBASIC is given in Section 3.

LET and PRINT

The LET command is probably the most important in XYBASIC, as it allows you to give a value to a variable. If you type

```
LET X = 14
```

then the value of the variable X becomes 14. To see the value of a variable, you can just ask XYBASIC to PRINT it:

```
PRINT X
 14
OK
```

The variable on the left hand side of the equal sign in a LET command can be given any value you desire; above you have given it the value 14. The