

# READ and DATA Overview

The two statements **READ** and **DATA** never operate by themselves; you should never see one without the other. A program that contains one or more **READ** statements must contain at least one **DATA** statement. These two statements do not necessarily appear close together in a program.

**Note:** **READ** reads **DATA** values into variables. The most important thing to remember is that **READ** always is followed by one or more variable names, and never by constants. **DATA** always is followed by one or more constants and never by variable names.

Of the two statements, **READ** is active and **DATA** is passive. **DATA** statements do not execute. QBasic ignores **DATA** statements, regardless of where they fall in a program until it reaches a **READ** statement. When QBasic runs across **READ**, it carries out the following steps:

- Look for the next unread **DATA** statement.
- Assigns the value(s) in the **DATA** statement to the **READ** variable(s).
- It remembers that the **DATA** was used, so it does not reuse the same data values that were already read.

Because **DATA** statements are passive, they can go anywhere in the program without affecting the program's execution, even at the beginning.

Although the number of **READ** variables and **DATA** values in each line do not have to match, you should make them match if at all possible. This practice makes for easier debugging.

**CAUTION:** Do not put a remark to the right of a **DATA** statement's values. Not knowing whether that text is data or a remark, QBasic tries to read it (incorrectly).

```
CLS
```

```
DIM names(1 TO 4) AS STRING  
DIM ctr as INTEGER
```

```
DATA Fred Flintstone, Barney Rubble, Wilma Flintstone, Betty Rubble
```

```
FOR ctr = 1 TO 4  
    READ names(ctr)  
NEXT ctr
```

```
FOR ctr = 1 TO 4  
    PRINT names(ctr)
```

```
NEXT ctr
```

```
END
```

## RESTORE

RESTORE tells QBASIC to start reading at the DATA from the beginning again. The RESTORE function is quite useful when it's necessary to re-use the same DATA more than one time.

```
CLS

DIM names(1 TO 4) AS STRING
DIM ctr AS INTEGER

DATA Fred Flintstone, Barney Rubble, Wilma Flintstone

FOR ctr = 1 TO 4
    IF ctr MOD 4 = 0 THEN RESTORE
    READ names(ctr)
NEXT ctr

FOR ctr = 1 TO 4
    PRINT names(ctr)
NEXT ctr

END
```