

Table 3-2 Intrinsic Data Types.

Type	Usage
BYTE	8-bit unsigned integer. B stands for byte
SBYTE	8-bit signed integer. S stands for signed
WORD	16-bit unsigned integer (can also be a Near pointer in real-address mode)
SWORD	16-bit signed integer
DWORD	32-bit unsigned integer (can also be a Near pointer in protected mode). D stands for double
SDWORD	32-bit signed integer. SD stands for signed double
FWORD	48-bit integer (Far pointer in protected mode)
QWORD	64-bit integer. Q stands for quad
TBYTE	80-bit (10-byte) integer. T stands for Ten-byte
REAL4	32-bit (4-byte) IEEE short real
REAL8	64-bit (8-byte) IEEE long real
REAL10	80-bit (10-byte) IEEE extended real

Table 3-3 Legacy Data Directives.

Directive	Usage
DB	8-bit integer
DW	16-bit integer
DD	32-bit integer or real
DQ	64-bit integer or real
DT	define 80-bit (10-byte) integer

Initializer At least one *initializer* is required in a data definition, even if it is zero. Additional initializers, if any, are separated by commas. For integer data types, *initializer* is an integer constant or expression matching the size of the variable’s type, such as `BYTE` or `WORD`. If you prefer to leave the variable uninitialized (assigned a random value), the `?` symbol can be used as the initializer. All initializers, regardless of their format, are converted to binary data by the assembler. Initializers such as `00110010b`, `32h`, and `50d` all end up being having the same binary value.

3.4.3 Defining `BYTE` and `SBYTE` Data

The `BYTE` (define byte) and `SBYTE` (define signed byte) directives allocate storage for one or more unsigned or signed values. Each initializer must fit into 8 bits of storage. For example,