Microsoft Access interprets characters in the **InputMask** property definition as shown in the following table. To define a literal character, enter any character other than those shown in the table, including spaces and symbols. To define one of the following characters as a literal character, precede that character with a backslash (\).

|  |  |
| --- | --- |
| **Character** | **Description** |
| 0 | Digit (0 through 9, entry required; plus [+] and minus [-] signs not allowed). |
| 9 | Digit or space (entry not required; plus and minus signs not allowed). |
| # | Digit or space (entry not required; blank positions converted to spaces, plus and minus signs allowed). |
| L | Letter (A through Z, entry required). |
| ? | Letter (A through Z, entry optional). |
| A | Letter or digit (entry required). |
| a | Letter or digit (entry optional). |
| & | Any character or a space (entry required). |
| C | Any character or a space (entry optional). |
| . , : ; - / | Decimal placeholder and thousands, date, and time separators. (The actual character used depends on the regional settings specified in Microsoft Windows Control Panel.) |
| < | Causes all characters that follow to be converted to lowercase. |
| > | Causes all characters that follow to be converted to uppercase. |
| ! | Causes the input mask to display from right to left, rather than from left to right. Characters typed into the mask always fill it from left to right. You can include the exclamation point anywhere in the input mask. |
| \ | Causes the character that follows to be displayed as a literal character. Used to display any of the characters listed in this table as literal characters (for example, \A is displayed as just A). |
| Password | Setting the **InputMask** property to the word **Password** creates a password entry text box. Any character typed in the text box is stored as the character but is displayed as an asterisk (\*). |

Input mask examples

The following table shows some useful input mask definitions and examples of values you can enter into them.

|  |  |
| --- | --- |
| **Input mask definition** | **Examples of values** |
| (000) 000-0000 | (206) 555-0248 |
| (999) 999-9999! | (206) 555-0248 ( ) 555-0248 |
| (000) AAA-AAAA | (206) 555-TELE |
| #999 | -20 2000 |
| >L????L?000L0 | GREENGR339M3 MAY R 452B7 |
| >L0L 0L0 | T2F 8M4 |
| 00000-9999 | 98115- 98115-3007 |
| >L<?????????????? | Maria Pierre |
| ISBN 0-&&&&&&&&&-0 | ISBN 1-55615-507-7 ISBN 0-13-964262-5 |
| >LL00000-0000 | DB51392-0493 |

**Editing an Input Mask**

The default input masks provided by Microsoft Access accommodate a wide variety of situations. These default masks include:

* Telephone numbers
* Social Security numbers
* ZIP Codes
* Telephone extensions
* Passwords
* Various date and time formats

If one of these default masks does not meet your needs, you may edit them using the Input Mask Wizard. Simply click the Edit List button on the first screen of the Input Mask Wizard to begin the editing process. Here are the valid characters that you may include in an input mask:

* 0: User must enter a numeric digit (0 through 9)
* 9: User may enter a numeric digit (0 through 9)
* #: User may enter a numeric digit, space, +, or -
* L: User must enter a letter
* ?: User may enter a letter
* A: User must enter a letter or numeric digit
* a: User may enter a letter or numeric digit
* &: User must enter a character or a space
* C: User may enter characters or spaces

In the list above, note the differing use of the words "must" and "may". Some input mask characters are optional, allowing the user to enter data in a field but also allowing them to leave it blank. The characters ".", ",",":",";","-", and "/" may be included as placeholders and separators when required.
In addition to these, you may also include some special directives in your input masks. These include:

* !: Input provided by the user is entered from left to right instead of the normal right to left format
* >: All characters after this symbol are converted to uppercase regardless of how the user inputs them
* <: All characters after this symbol are converted to lowercase regardless of how the user inputs them
* \: The character immediately following the slash will be displayed in the mask as written
* "": Characters included in quotation marks will be displayed in the mask as written

With these rules in mind, recall the default ZIP Code mask that we encountered in the first half of this tutorial: "00000\-9999". You now have the information you need to decipher this mask. The mask indicates that the user must enter at least a five digit ZIP code, which will be followed by a hyphen. The user may then enter up to four additional optional digits.