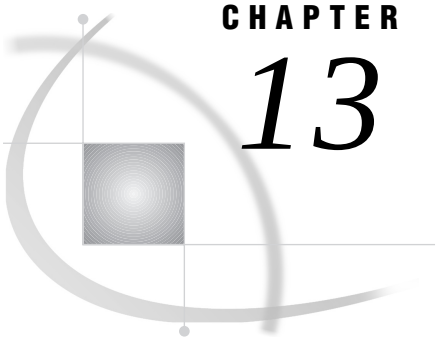


CHAPTER

13

Importing and Exporting External Data

Chapter Overview

This chapter describes how you can create an external text file from a SAS table. It also describes how you can take data that exists outside the SAS System and bring it into the SAS System to be processed.

An *external file* contains data that resides in a file outside the SAS System. In this task, an external file is also called a *flat file*.

There are two ways to export to and import from external files:

- Using the Import and Export Wizards provided by the SAS System
- Using the import and export capabilities provided by SAS/ASSIST software.

The Import and Export Wizards are generally easier to use, but are not available in mainframe operating environments. If you are using a desktop operating environment, it is recommended that you use them. From any SAS System window (including SAS/ASSIST task windows and the WorkPlace menu), follow these selection paths:

File ► Import Data

or

File ► Export Data

Both wizards have extensive online help available.

If you are using a mainframe operating environment, or are interested in SAS/ASSIST software's import and export capabilities, continue with this chapter.

Exporting a File

This section shows you how to export a file using SAS/ASSIST software's export feature.

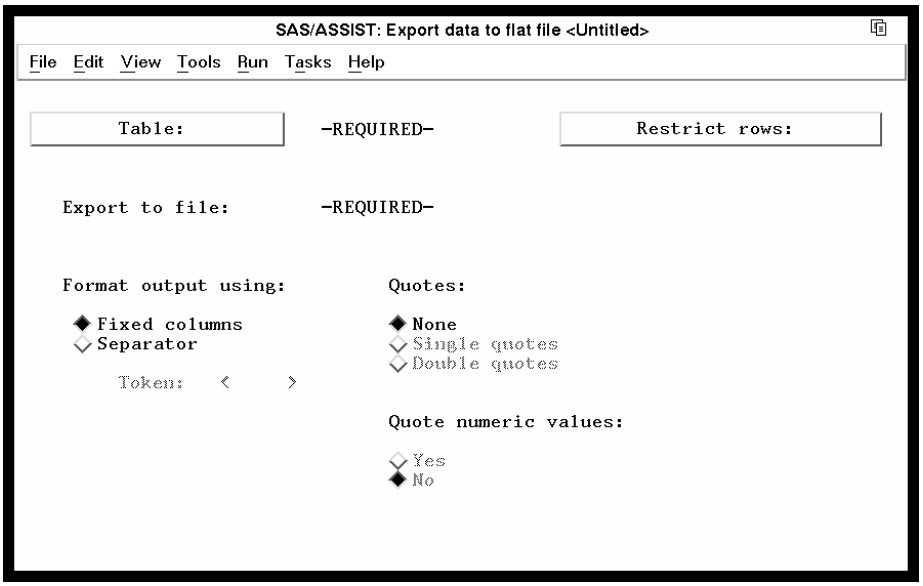
Instructions

1 To export data to an external file, follow this selection path:

Tasks ► Data management ► Export data...

The Export data to flat file window appears.

Display 13.1 Export Data to Flat File Window



2 If the active table is SASUSER.HOUSES, continue to the next step. Otherwise, select **Table**, and then select the SASUSER.HOUSES table. For more information on selecting tables, see “Selecting a Table” on page 24.

3 If other task selections exist (for example, a filename is listed for **Export to file**), follow this selection path to clear these selections:

File ► New

4 In the **Export to file** field, type the complete physical pathname of the external file named **HOUSDATA**, into which you will export the SAS table. This file is created for you during the export process. Use the following table as a guide to naming the file. Note that *USERID* represents your userid.

Table 13.1 Examples of Operating Environment-Specific Physical Pathnames

operating environment	Example
OS/390	*USERID*.HOUSDATA.EXPORT
CMS	HOUSDATA FILE A
OpenVMS Alpha or OpenVMS VAX	*DEVICE*:[EXPORT] HOUSDATA

operating environment	Example
UNIX	/u/*userid*/export/housdata
OS/2 or Windows	C:\export\housdata

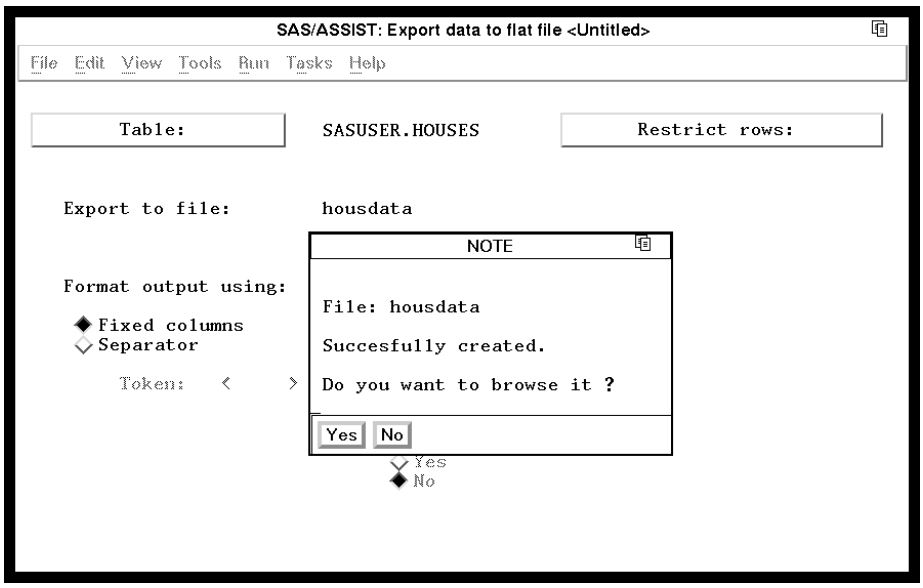
5 You can export the data in fixed columns or with a separator that you specify. For this example, select **`Fixed columns`**.

6 Follow this selection path:

Run ▶ Submit

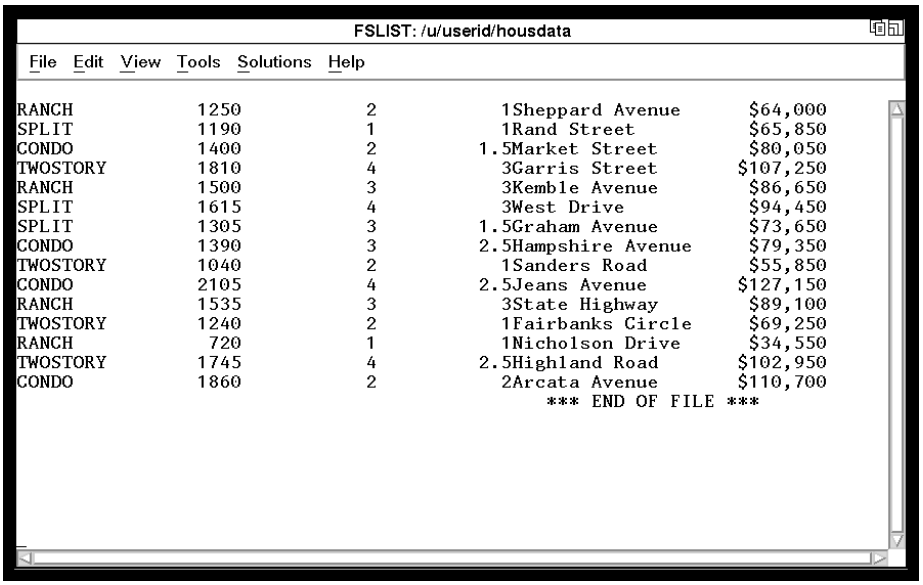
A window appears with a message that your file was successfully created, and with a prompt to browse the file.

Display 13.2 File Successfully Created Message



7 Select **`Yes`** to browse the exported file in the FSLIST window, as shown in the following display.

Display 13.3 Browsing the Exported File



8 Follow this selection path to return to the Export Data to Flat File window:

File ► Close

Exiting This Task

When you are ready to return to the WorkPlace menu or move on to another task, follow the directions in "Exiting a Task" on page 26.

Importing Data from a Flat File

Importing data enables you to read data from an existing external file and create a SAS table from it. In this section, you import the file that was created in the previous section. Note that when you import a file using SAS/ASSIST software, the file must be in fixed column format.

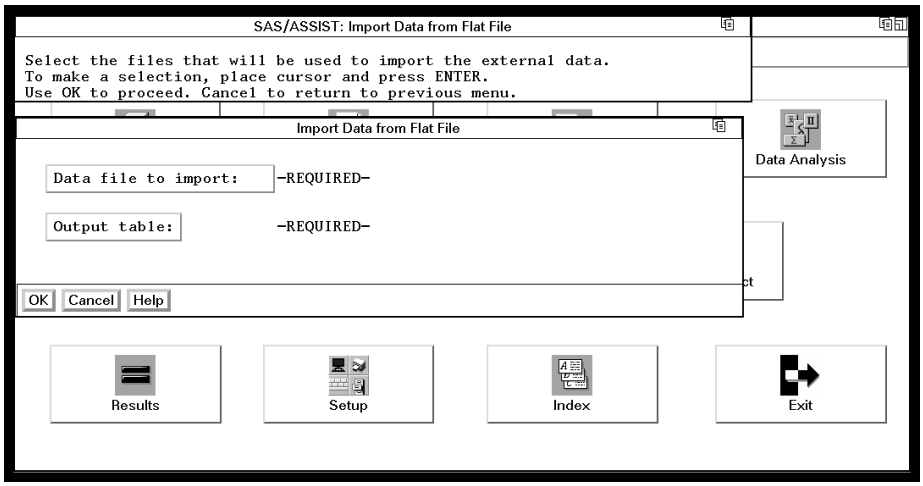
Instructions

1 To import data from an external file, follow this selection path:

Tasks ► Data Management ► Import Data...

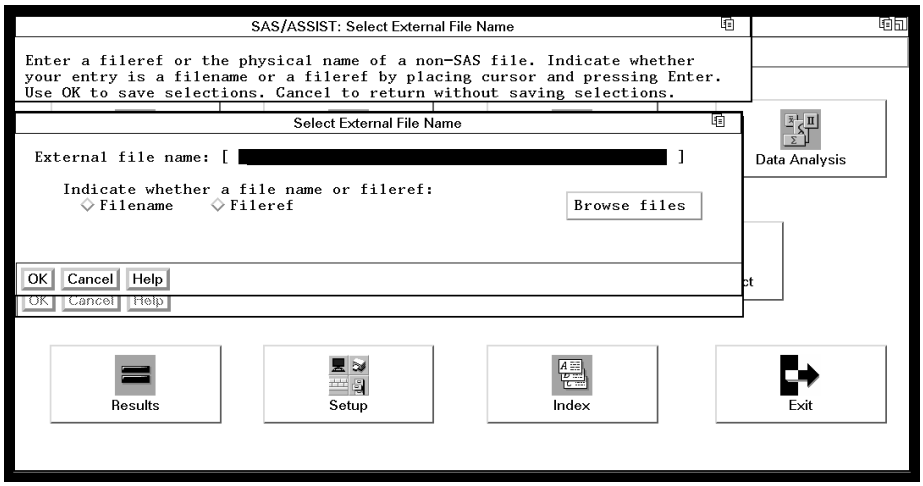
The Import Data from Flat File window appears.

Display 13.4 Import Data from Flat File Window



2 Select **`Data file to import`**. The Select External File Name window appears.

Display 13.5 Select External File Name Window



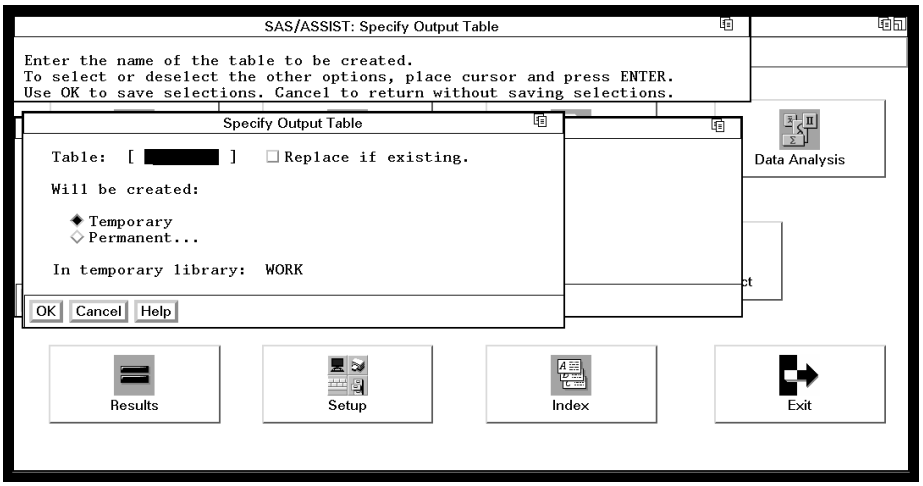
3 In the **`External file name`** field, type the name of the external file that you created in "Exporting a File" on page 127. Use the operating environment guidelines shown in Table 13.1 on page 128 (where *USERID* represents your userid). For this example, use the external file **`HOUSDATA`**.

4 Select **`Filename`** to indicate that you typed the physical file name of the file.

5 Select **`OK`**. The Import Data from Flat File window reappears.

6 Select **`Output table`**. The Specify Output Table window appears.

Display 13.6 Specify Output Table Window



7 Type the name of the SAS table that you want to create using the data from the external file. For this example, type **EXTHOUSE**. Refer to "SAS Tables" on page 113 for information about table naming.

You can store the data temporarily or permanently. For this example, store the data temporarily.

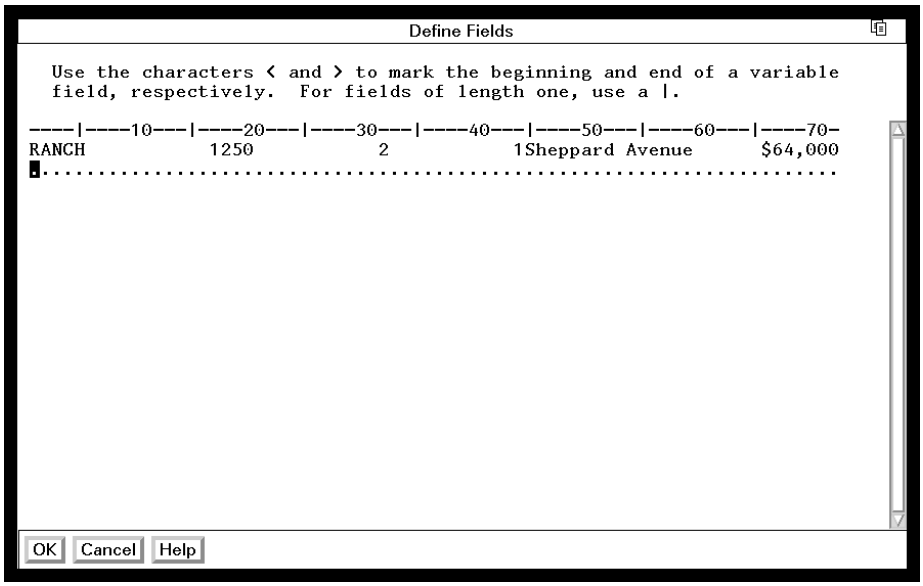
- If you want to store the data only for the length of the SAS session, select **Temporary**. The data are stored in a temporary table called WORK.EXTHOUSE, which is deleted when you end the SAS session.
- If you want to store the data permanently, select **Permanent**. A list of existing SAS librefs appears.

  Select the libref for the location where you want to store the data, for example, the SASUSER libref. Once the import is complete, the table EXTHOUSE is stored in the SASUSER libref and remains there until you delete it.

8 Select **OK**. The Import Data from Flat File window reappears.

9 Select **OK**. The Define Fields window appears.

Display 13.7 Define Fields Window

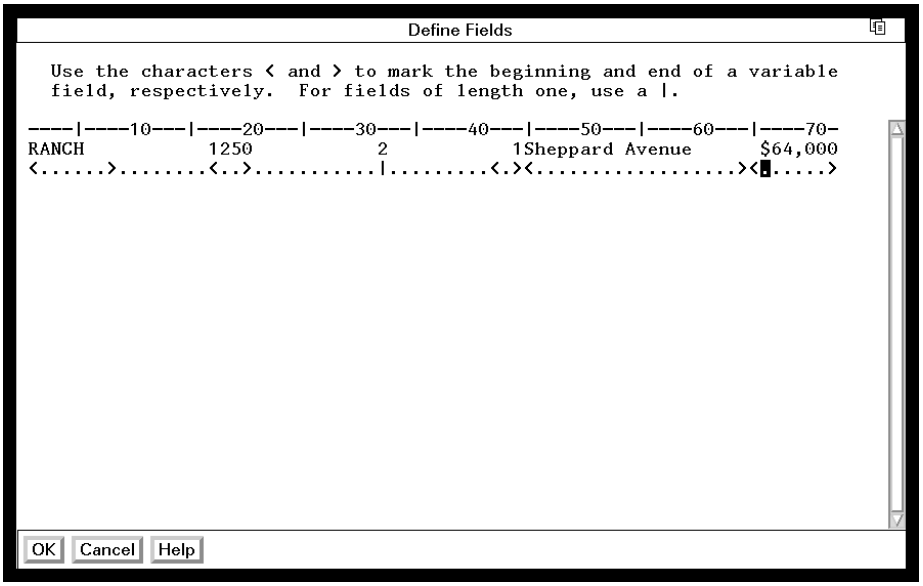


The first line of the external file appears below the rule line. Notice that there is no space between the number of bathrooms (1) and the address (Sheppard Avenue). In fact, there are no spaces between any of the columns because you saved this file with fixed column widths rather than with delimiters between data values. Because numeric columns are right-justified, while character columns are left-justified, the data values in the bathrooms column appear to be directly adjacent to the data values in the address column. Be careful not to mark them as one data value.

10 In the Define Fields window, use angle brackets (< and >) to mark the width of each field as shown in the following display. If a field has a length of only 1, use the vertical bar (|) to mark it.

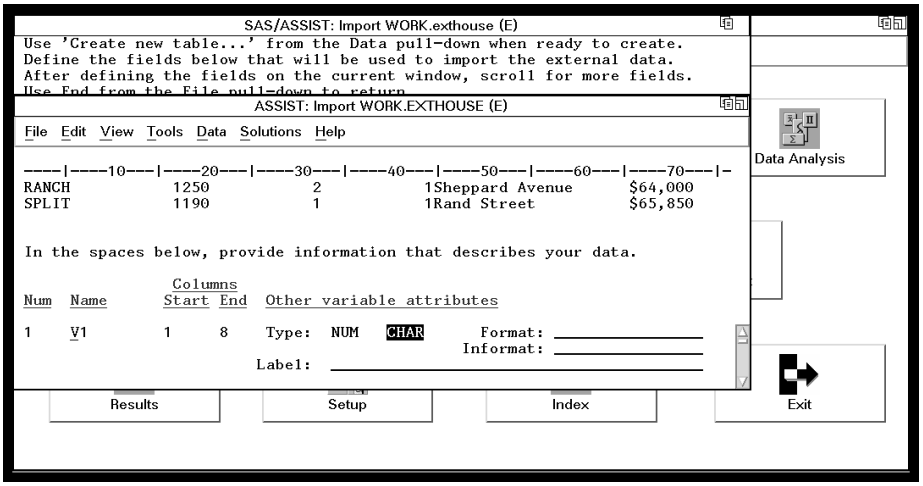
Make sure you allow for the greatest width possible for each field value so that you do not inadvertently truncate some of your data.

Display 13.8 Define Fields Window with Fields Defined



11 Select **OK**. The Import window appears.

Display 13.9 Import Window



12 Type the following information for each column at the bottom of the window. Press TAB to move among the fields. To move to the next or previous column at the bottom of the window, use the scroll bar in the lower right corner of the window.

- Type a name for each column. For this example, type **Style** for the name of the first column. Type over the existing name (**V1**). See "SAS Tables" on page 113 for information on column naming.
- You can change the column type, if needed. A column may be either numeric or character. Move the cursor to the type you want and press ENTER to select it. For this example, leave the type as **CHAR**.
- You can type a format in the **Format** field, if needed. A format determines how the values appear when they are displayed by SAS software. For a list of formats, type a **?** in the **Format** field and press ENTER. Move the cursor to

the format you want and press ENTER to select it. For this example, leave the format blank.

- You can type an informat in the **Informat** field, if needed. An *informat* determines how the values are read from the external file into the SAS table. For a list of informats, type a **?** in the **Informat** field and press ENTER. Move the cursor to the informat you want and press ENTER to select it. For this example, leave the informat blank.

  See *SAS Language Reference: Concepts* for more information on formats and informats.
- Type a label for each column. For this example, type **Style of House**. SAS software displays the column label you assign instead of the column name. A label can contain from 1 to 40 characters.
- Type the information for the remaining five columns as shown in the following table. Use the scroll bar in the lower right corner of the window to access the next column.

Table 13.2 Assigning Column Information

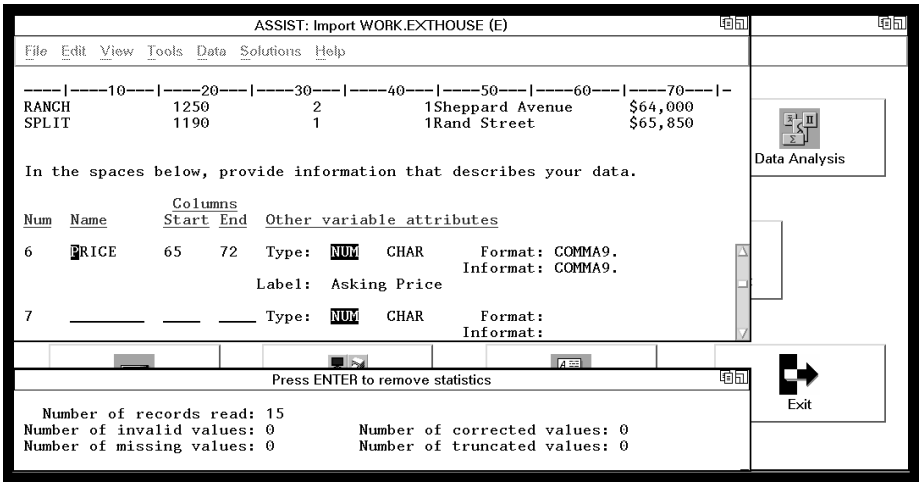
Name	Type	Format	Informat	Label
SQFEET	NUM			Square Feet
BEDROOMS	NUM			Number of Bedrooms
BATHS	NUM			Number of Bathrooms
ADDRESS	CHAR			Street Address
PRICE	NUM	COMMA9.	COMMA9.	Price of House

13 After you finish typing the information for all the columns, follow this selection path:

Data ► Create Data Set...

("Data set" is another term for "table.") The Create Data Set... window appears with a prompt that asks whether you want to be prompted to enter new values for bad values or whether you want a report sent to the log. For this example, select **VERIFY** so that you will be prompted to correct any errors in the data as they are imported.

14 Select **OK**. A message appears at the bottom of the window with the statistics of the number of records processed.



15 Press ENTER to clear the statistics. The Import window reappears. A note appears in the message area stating the number of observations (rows) and variables (columns) in the table.

You can **`Edit created data set`** or **`Browse created data set`** from the **`Data`** menu on the menu bar.

16 When you finish browsing or editing your table, follow this selection path to close the FSBROWSE or FSEDIT window:

File ► Close

Then, follow this selection path from the Import window to return to the WorkPlace menu:

File ► Close

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