CHAPTER

9

Defining a New Column

Chapter Overview

You can create new columns from existing data. For example, you may want to know the cost per square foot for each house in the HOUSES table. This information does not exist in the HOUSES table. However, by using SAS/ASSIST software, you can create a new column that contains this data in a new table. New columns cannot be added to existing tables.

This chapter shows you how to determine the cost per square foot for each house in the HOUSES table, and how to store that information in a new column in a new table.

Additional Information

For additional information about defining columns, refer to the *SAS Language Reference: Dictionary*.

Defining a New Column

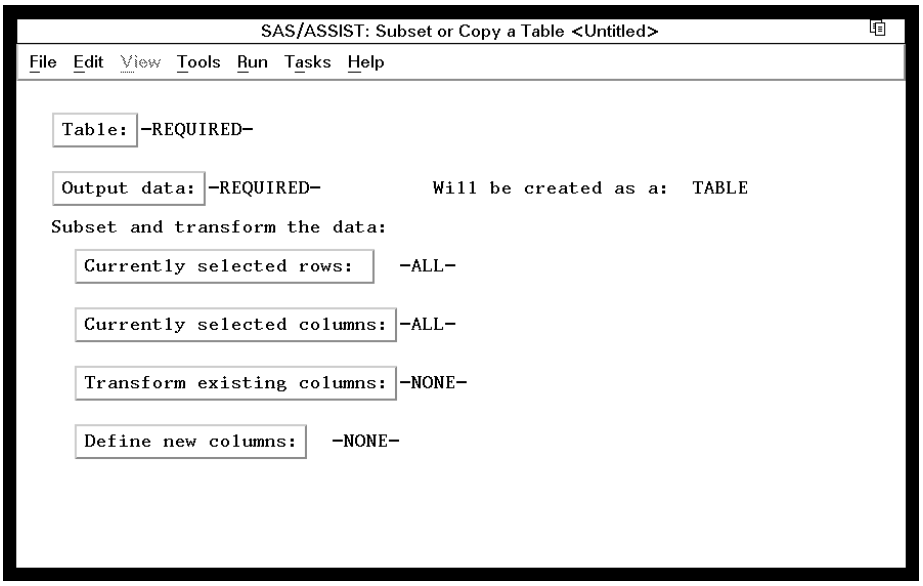
Instructions

1 To define a new column, follow this selection path:

Tasks ► Data Management ► Subset/Copy

The Subset or Copy a Table window appears.

Display 9.1 Subset or Copy a Table Window



When you define a new column, use **Subset/Copy** because the existing table is copied and the newly defined column is created to generate the output table.

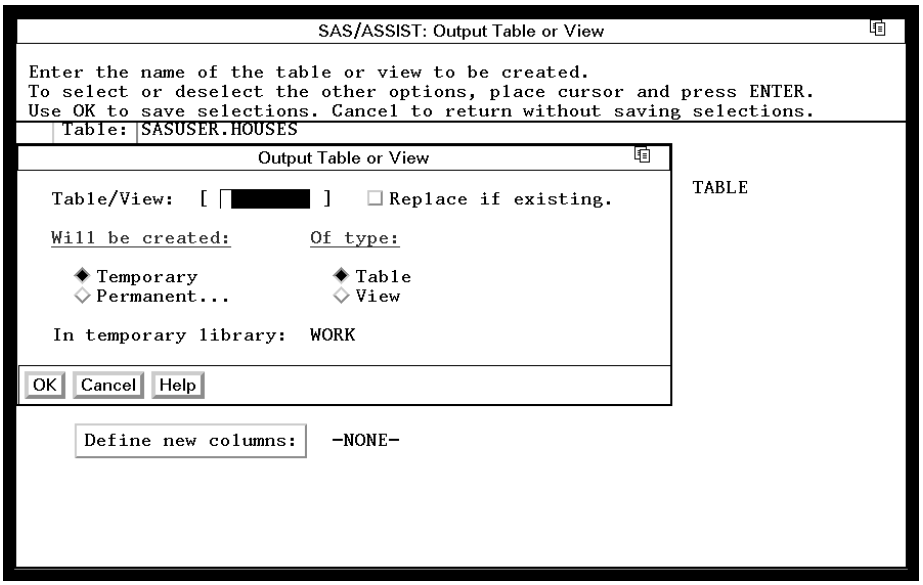
2 If the active table is SASUSER.HOUSES, continue to the next step. Otherwise, select **Table**, and then select the SASUSER.HOUSES table. For more information on selecting tables, see "Selecting a Table" on page 24.

3 If other report selections exist (for example, column names are listed for **Define new columns**), follow this selection path to clear these selections:

File ► New

4 Select **Output data** from the Subset or Copy a Table window. The Output Table or View window appears.

Display 9.2 Output Table or View Window



An output table enables you to store the data with the new column separate from the original data.

5 In the **Table/View** field, type **HOUSCOST** as the name of the output table in which you want to store the data with the new column. See "SAS Tables" on page 113 for details on naming SAS tables.

Note: Use **Replace if existing** to replace the data in a table or view of the same name. Otherwise, you get an error message that the table already exists and you must enter a new table name. △

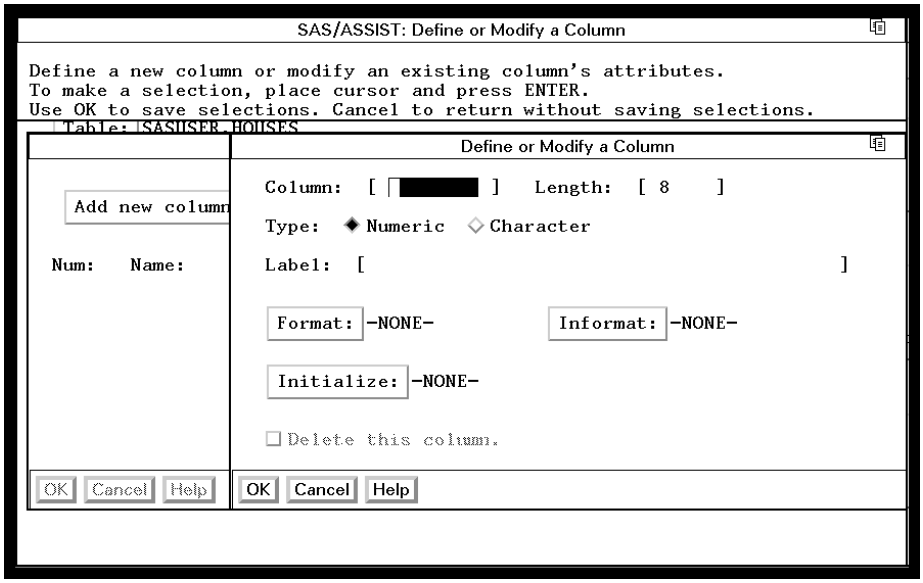
6 You can store the data temporarily or permanently. For this example, store the data temporarily.
- If you want to store the data only for the length of the SAS session, select **Temporary**. The data is stored in a temporary table called WORK.HOUSCOST, which is deleted when you end the SAS session.
- If you want to store the data permanently, select **Permanent**. A list of existing librefs appears. Select the libref for the location where you want to store the data, for example, the SASUSER libref. The table HOUSCOST is stored in SASUSER, and remains there until you delete it.

7 You can store the data with the new column either as a table or as a view. For this example, store the data as a table.

8 Select **OK**. The Subset or Copy a Table window reappears.

9 Select **Define new columns** from the Subset or Copy a Table window. The Define or Modify a Column window appears.

Display 9.3 Define or Modify a Column Window



10 In the **Column** field, type **FOOTCOST** as the name of the new column. See "SAS Tables" on page 113 for details on naming columns.

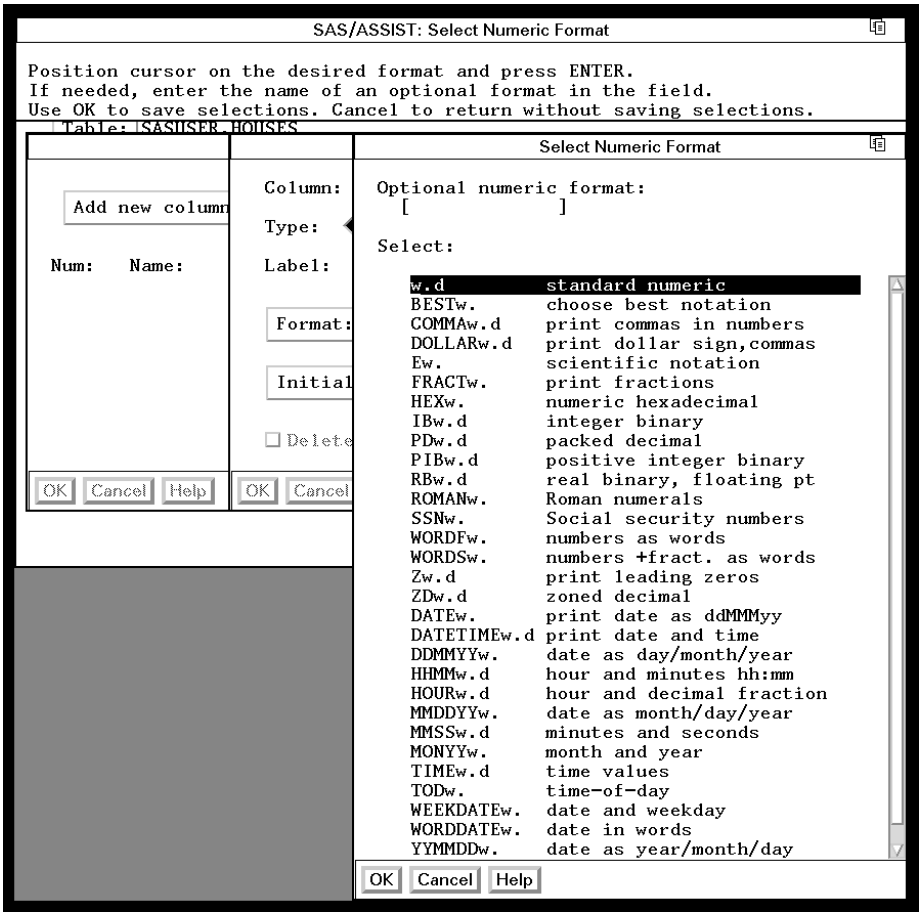
11 Select **Numeric** as the type of the column.

A column can be character or numeric. If a column is defined as character, it can contain letters, numbers, special characters, and symbols, but it cannot be used in arithmetic calculations. If a column is defined as numeric, it can contain only numbers, decimal points, plus signs, and minus signs, and it can be used in arithmetic calculations.

12 In the **Label** field, type **Cost per Square Foot**. A label can be up to 40 characters, and it can be printed instead of, or in addition to, the column name in certain tasks.

13 Select **Format**. The Select Numeric Format window appears.

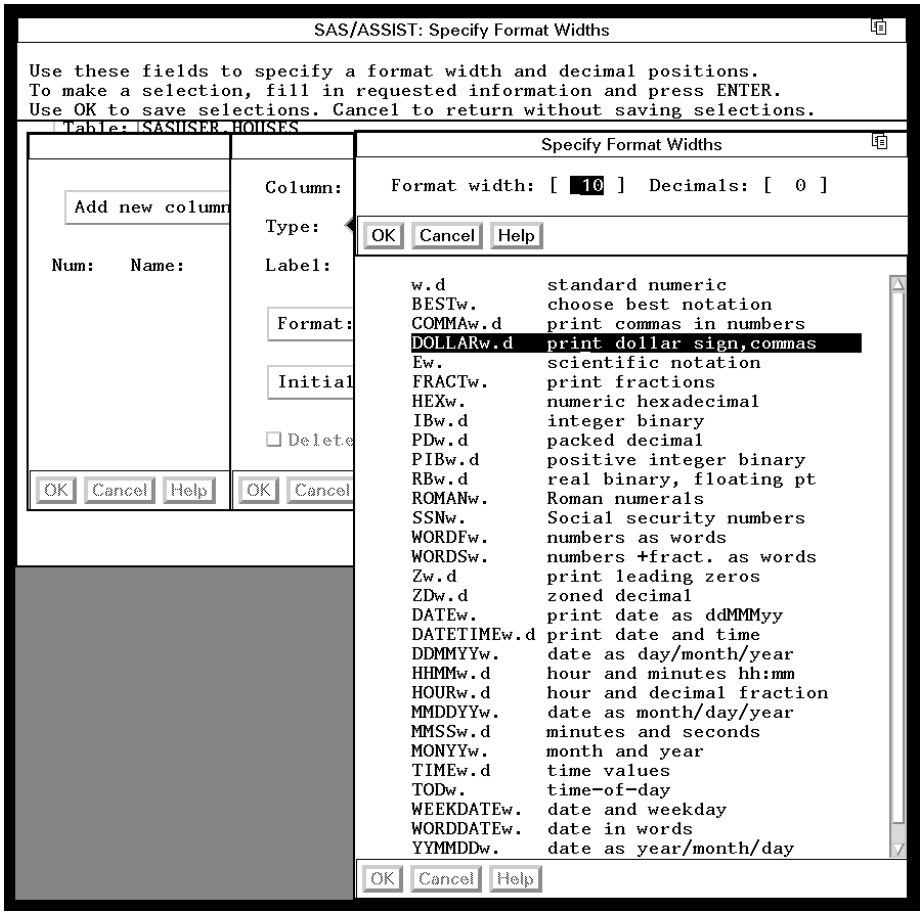
Display 9.4 Select Numeric Format Window



A *format* is a pattern that the SAS System uses to determine how a column value should be displayed. The SAS System provides a set of standard formats and also enables you to define your own custom formats. For example, the DOLLAR*w.d* default format displays the amount 1200 as $1,200. For more information on formats, refer to *SAS Language Reference: Dictionary*.

14 Select the **DOLLARw.d** format. The Specify Format Widths window appears with the default definition for the selected format.

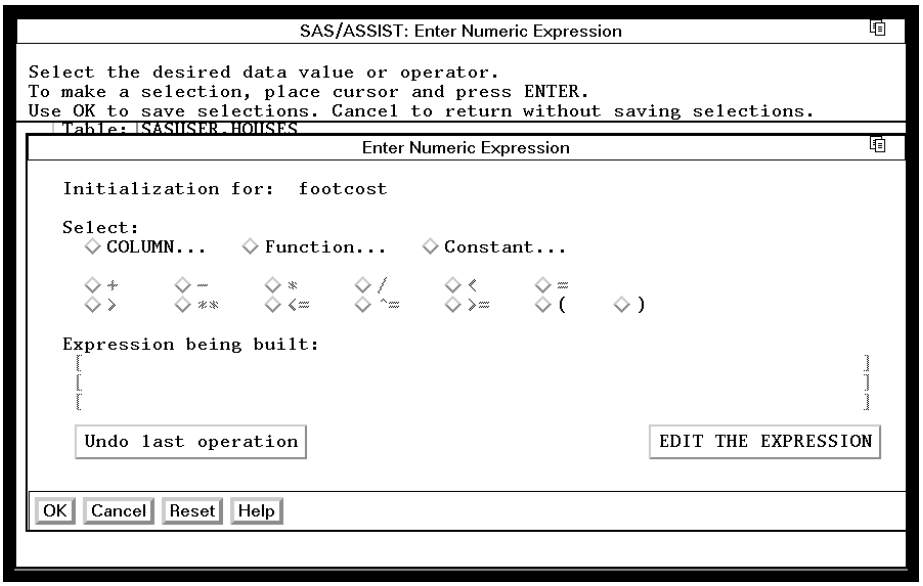
Display 9.5 Specify Format Widths Window



15 Select **OK** to accept the defaults of 10 for the format width and 0 for the number of digits to the right of the decimal point. The Define or Modify a Column window reappears.

16 Select **Initialize** from the Define or Modify a Column window. The Enter Numeric Expression window appears. This window enables you to define (initialize) the new column.

Display 9.6 Enter Numeric Expression



For this example, you can determine the cost per square foot by building the arithmetic expression of price divided by square feet (PRICE/SQFEET). The cost per square foot is calculated for each house and stored in the new column called FOOTCOST. You can build the expression by using one of the methods listed below.

- You can type the expression directly by using **EDIT THE EXPRESSION**.
- You can build the expression by using items in the window. If you use the items in this window, the items available for selection are highlighted while you are building the expression.

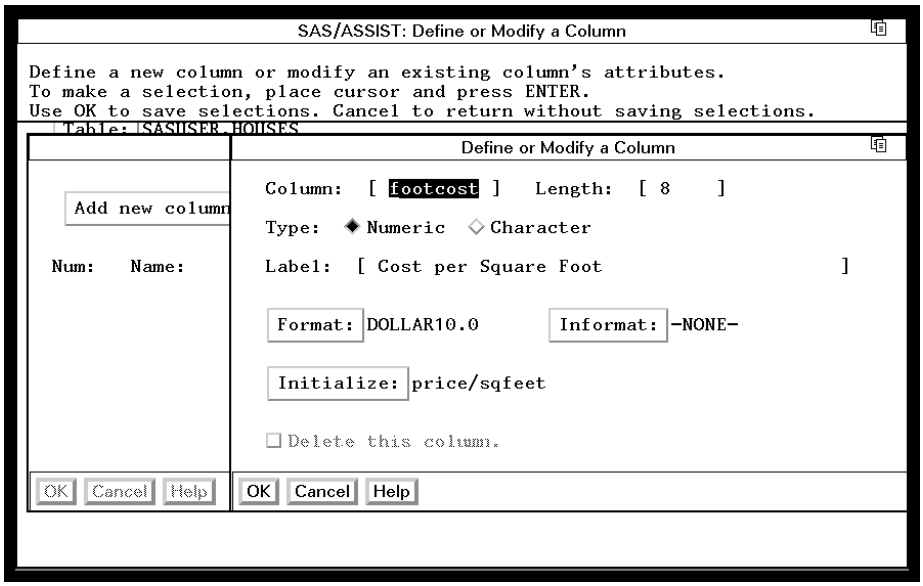
17 To build the expression by using the items in the window, select **Column** from the Enter Numeric Expression window. Select the PRICE column. For more information on selecting columns, refer to “Selecting a Column” on page 25.

18 Select the division symbol (**/**).

19 Select **Column** again, and then select the SQFEET column the same way you selected the PRICE column in step 17. The Enter Numeric Expression window reappears.

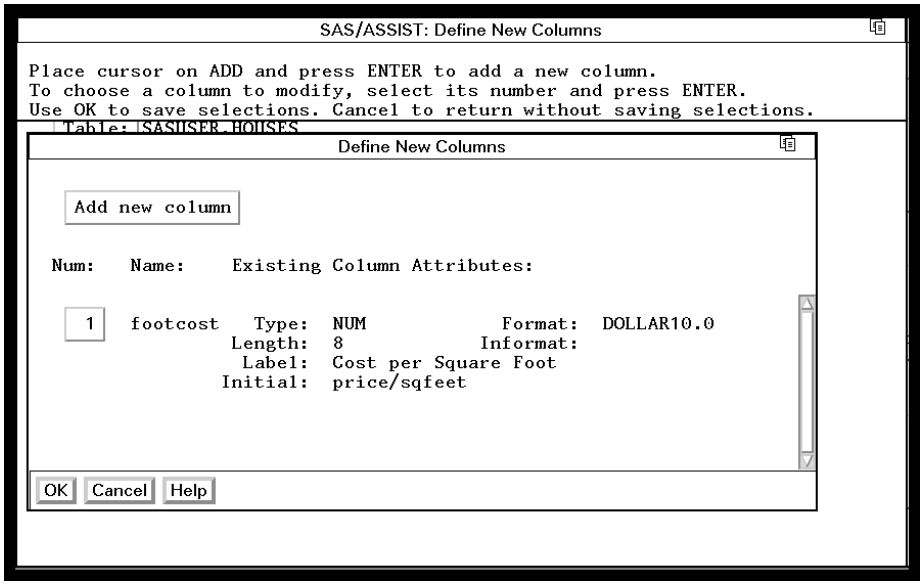
20 Select **OK**. The Define or Modify a Column window reappears with the new column defined.

Display 9.7 Definition of the FOOTCOST Column



Select **OK**. The Define New Columns window appears with information about the new column.

Display 9.8 Define New Columns Window



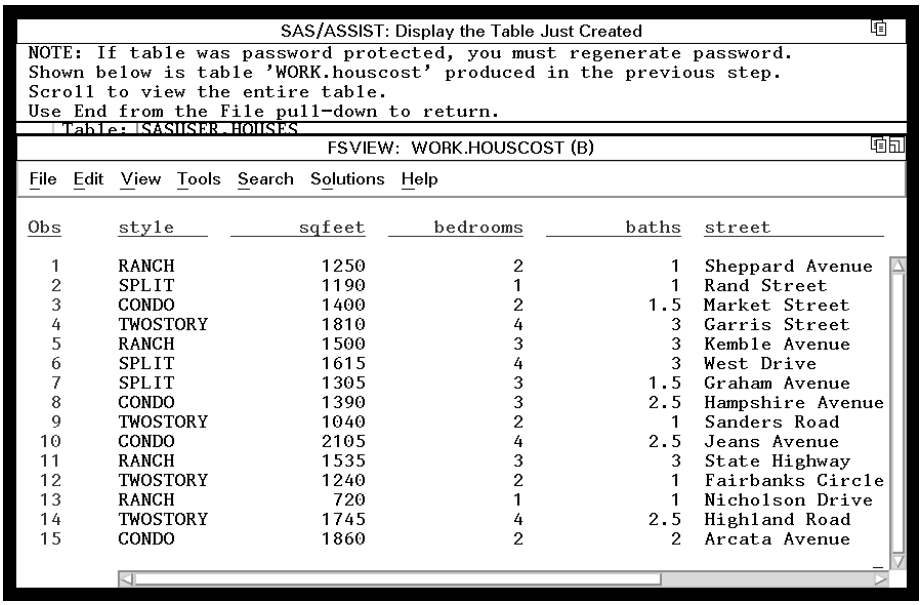
Select **OK** again. The Subset or Copy a Table window reappears.

21 To copy the data into the new table and generate the new column, follow this selection path:

Run ▶ Submit

The data from the HOUSES table is copied into the HOUSCOST table, and the new column FOOTCOST is created. The new table is shown in a tabular format.

Display 9.9 HOUSCOST Table



SAS/ASSIST: Display the Table Just Created

NOTE: If table was password protected, you must regenerate password.
Shown below is table 'WORK.houscost' produced in the previous step.
Scroll to view the entire table.
Use End from the File pull-down to return.

Table: SASUSER.HOUSES

FSVIEW: WORK.HOUSCOST (B)

File Edit View Tools Search Solutions Help

Obs	style	sqfeet	bedrooms	baths	street
1	RANCH	1250	2	1	Sheppard Avenue
2	SPLIT	1190	1	1	Rand Street
3	CONDO	1400	2	1.5	Market Street
4	TWOSTORY	1810	4	3	Garris Street
5	RANCH	1500	3	3	Kemble Avenue
6	SPLIT	1615	4	3	West Drive
7	SPLIT	1305	3	1.5	Graham Avenue
8	CONDO	1390	3	2.5	Hampshire Avenue
9	TWOSTORY	1040	2	1	Sanders Road
10	CONDO	2105	4	2.5	Jeans Avenue
11	RANCH	1535	3	3	State Highway
12	TWOSTORY	1240	2	1	Fairbanks Circle
13	RANCH	720	1	1	Nicholson Drive
14	TWOSTORY	1745	4	2.5	Highland Road
15	CONDO	1860	2	2	Arcata Avenue

22 When you finish looking at the new table, follow this selection path to return to the Subset or Copy a Data Set 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.

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