Chapter 6
Creating Reports

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Introduction

You can create a detailed report that lists portions of your data, or you can create a tabular report that summarizes your data.

Listing Data

To create a detailed listing report, select **Reports** → **List Data** . . .

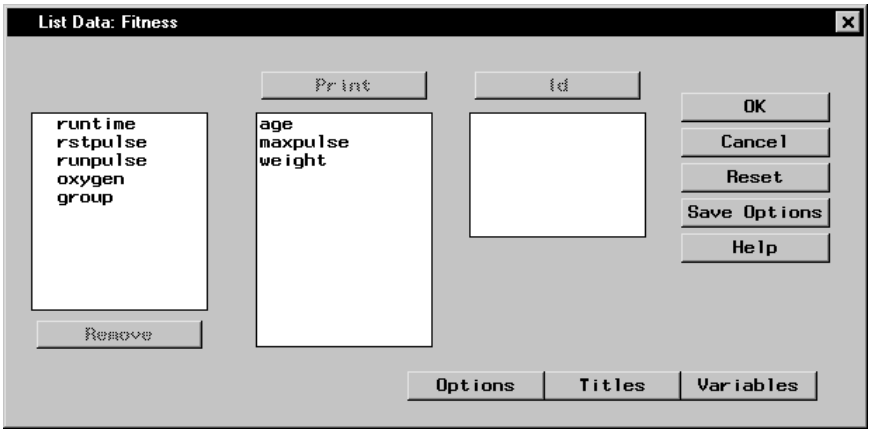


Figure 6.1. List Data Dialog

You can use the List Data dialog to print your data in a listing report. You can specify the variables to be included in the report and some details about the report format.

Select variables from the candidate list and click on the **Print** button to include the variables in the listing.

Select variables from the candidate list and click on the **Id** button to designate the variables as Id variables in the listing. These Id variables are used instead of observation numbers to identify the observations in the listing.

List Data Options

Click on the **Options** button in the List Data dialog to specify options that control aspects of the report format and whether or not to print a sum for numeric columns.

General

The **General** tab enables you to choose to use column names or column labels as column headings.

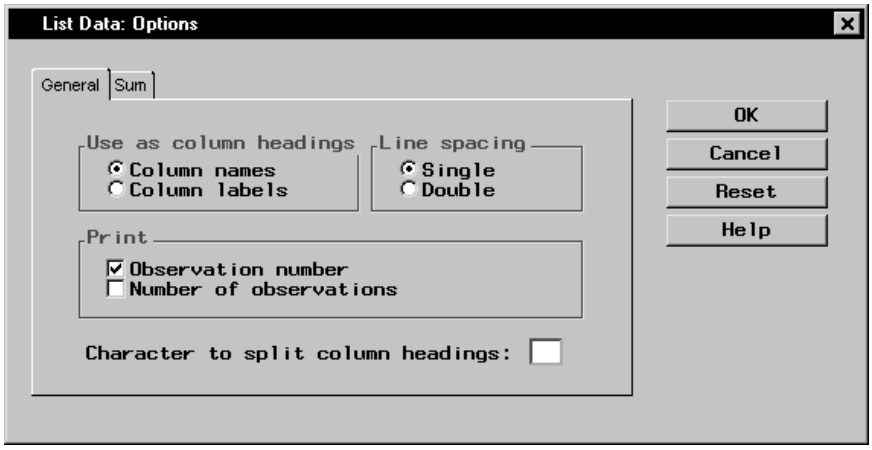


Figure 6.2. General Tab

Spacing between lines of the report can be single or double.

By default, you can print the number of each observation at the left as an identifier. If you have selected an Id variable, you cannot print the observation number.

You can also select to print the total number of observations in the data table at the end of the report.

To precisely control column headings in the report, you can specify a special character for variable labels that determines where the label is split as it forms a column heading. You can alter variable labels by selecting **Column Properties** . . . from the **Data** menu.

Sum

The **Sum** tab enables you to generate a total for each selected numeric column.

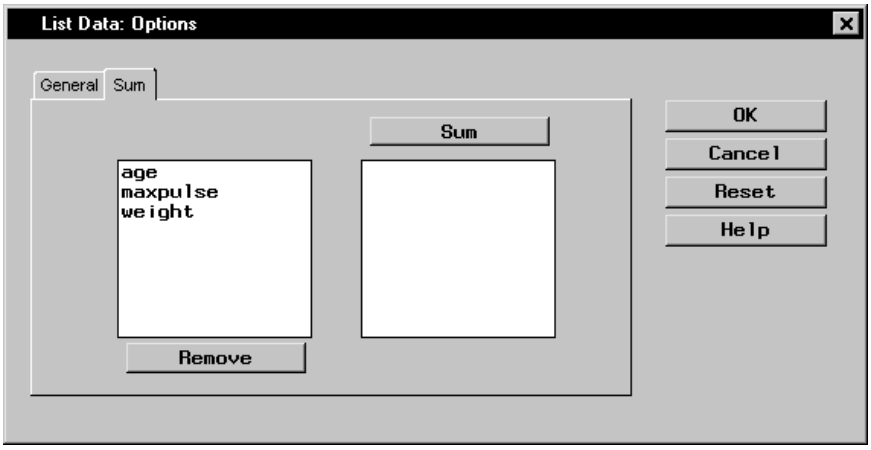


Figure 6.3. Sum Tab

The numeric columns that are selected to be printed are listed in the candidate list. Select a column and click on the **Sum** button, or double-click on the column name to add it to the list of columns to be totalled.

List Data Titles

Click on the **Titles** button to display the Titles dialog.

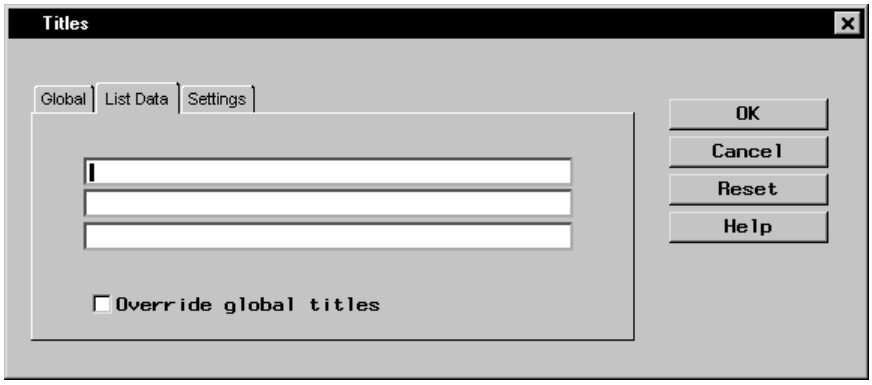


Figure 6.4. Titles Dialog, List Data Tab

In the **Global** tab, you can specify titles that are displayed on all output. These titles are saved across all Analyst sessions.

In the **List Data** tab, you can specify titles for the report. Select the box next to **Override global titles** to exclude the global titles from the report results.

In the **Settings** tab, you can specify whether or not to include the date, the page numbers, and a filter description.

List Data Variables

Click on the **Variables** button to display the List Data: Variables dialog.

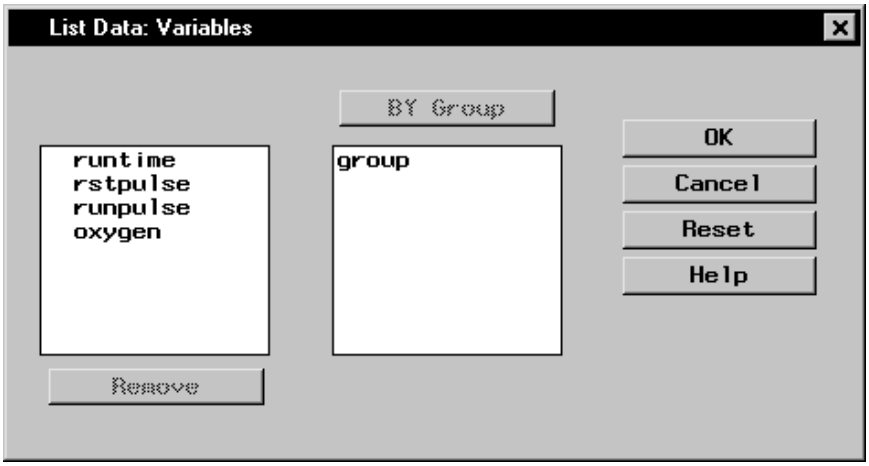


Figure 6.5. List Data: Variables Dialog

BY group variables separate the data set into groups of observations. Separate reports are produced for each group. For example, you could use a BY group variable to produce separate reports for females and males. Specify BY group variables by selecting them in the candidate list and clicking on the **BY Group** button.

Example: Create a Listing Report

Open the Fitness Data Set

In this example, you use the Fitness data set as the basis of your listing report. To open the Fitness data set, follow these steps:

1. Select **Tools** → **Sample Data** . . .
2. Select Fitness.
3. Click **OK** to create the sample data set in your Sasuser directory.
4. Select **File** → **Open By SAS Name** . . .
5. Select Sasuser from the list of **Libraries**.
6. Select Fitness from the list of members.
7. Click **OK** to bring the Fitness data set into the data table.

Specify Report Columns

To list maximum pulse, resting pulse, and average running pulse for each age, follow these steps:

1. Select **Reports** → **List Data** . . .
2. Select maxpulse, rstpulse, and runpulse and click on the **Print** button to include these variables in the report.
3. Select age and click on the **Id** button to make age the Id variable.

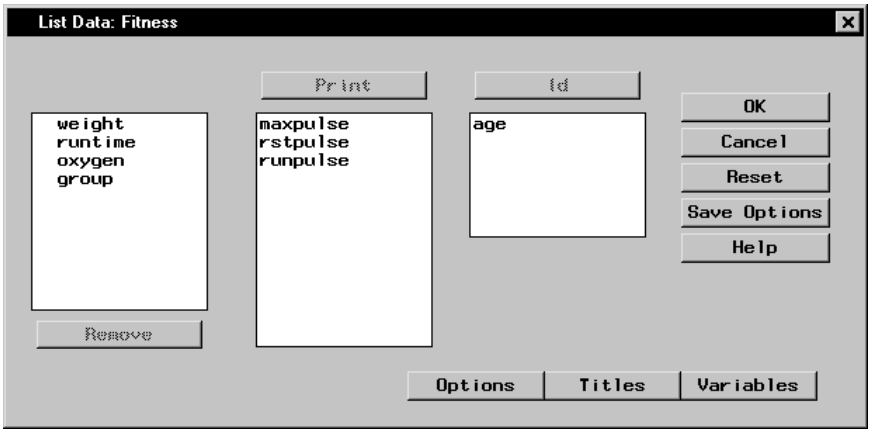


Figure 6.6. Columns in Report

Specify Report Options

To designate options such as column headings, follow these steps:

1. Click on the **Options** button in the List Data dialog.
2. In the **General** tab, select **Column labels** under **Use as column headings**.

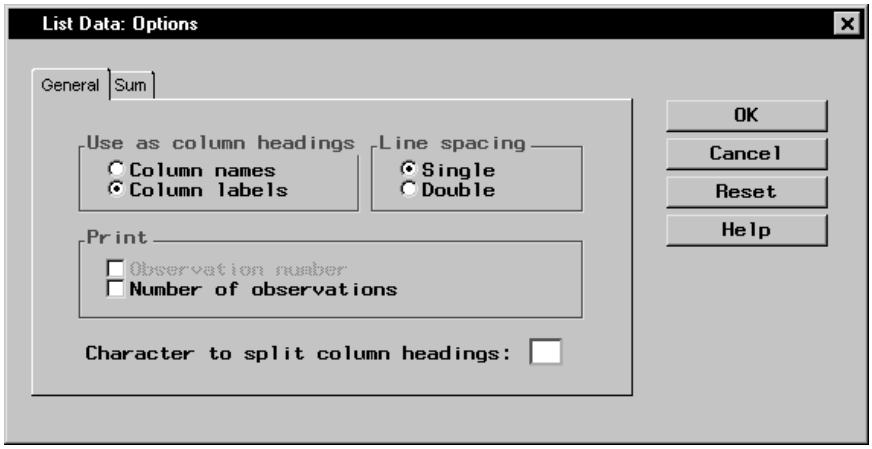


Figure 6.7. Use Column Labels as Column Headings

3. Click **OK** to save your changes.

Specify Report Titles

To specify the titles to be displayed in your report, follow these steps:

1. In the List Data dialog, click on the **Titles** button to specify your report titles.
2. In the **List Data** tab, type **Heart Rates According to Age** in the first field.

Figure 6.8. List Data Title

3. If you have not already done so, type **Fitness Report** in the first field in the **Global** tab.
4. Click on the **Settings** tab. Deselect **Include date** and **Include page numbers** so that the current date and page number are not printed on your report.

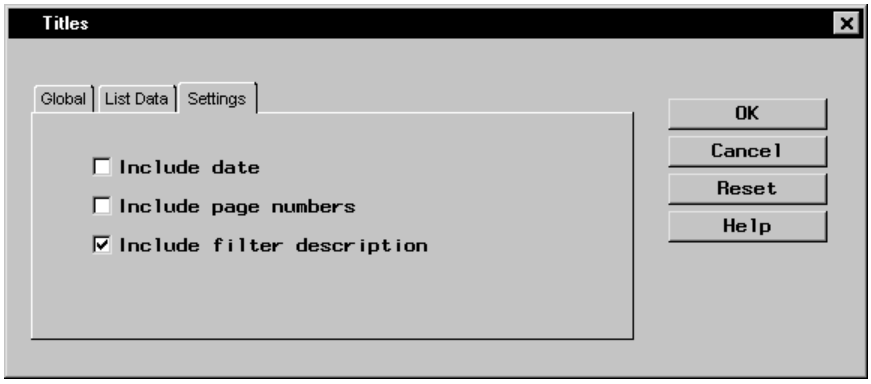
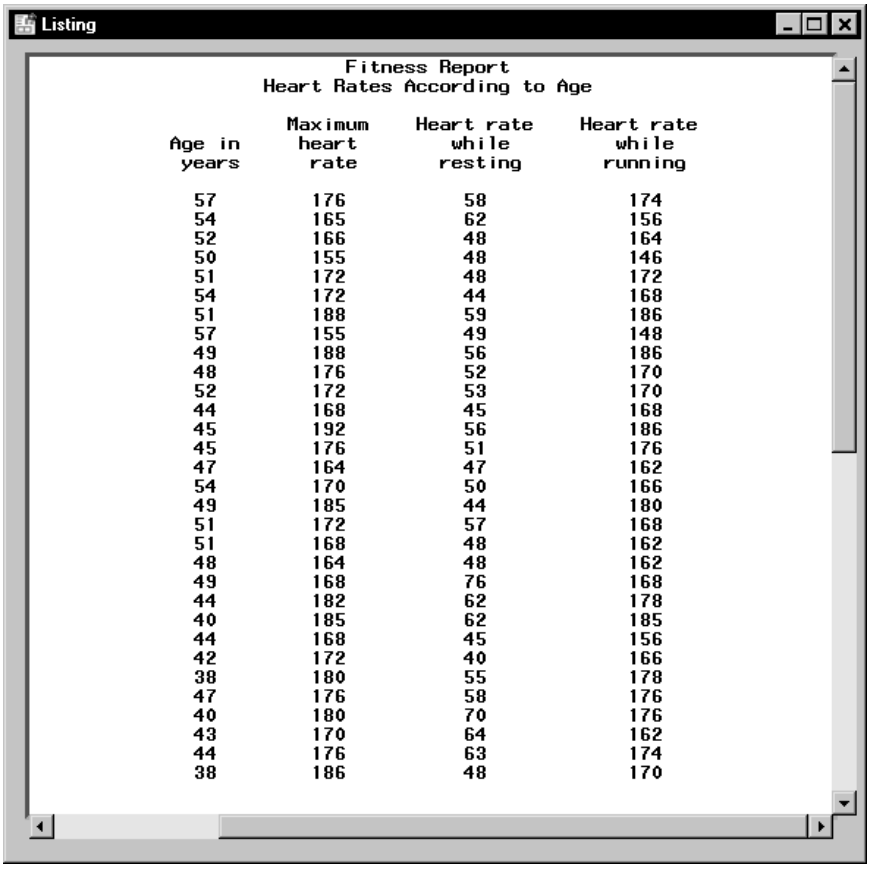


Figure 6.9. Exclude Date and Page Number

5. Click **OK** to save your title changes.

Generate a Data Listing

To generate a data listing of the columns that you have chosen, click **OK** in the List Data dialog.



Age in years	Maximum heart rate	Heart rate while resting	Heart rate while running
57	176	58	174
54	165	62	156
52	166	48	164
50	155	48	146
51	172	48	172
54	172	44	168
51	188	59	186
57	155	49	148
49	188	56	186
48	176	52	170
52	172	53	170
44	168	45	168
45	192	56	186
45	176	51	176
47	164	47	162
54	170	50	166
49	185	44	180
51	172	57	168
51	168	48	162
48	164	48	162
49	168	76	168
44	182	62	178
40	185	62	185
44	168	45	156
42	172	40	166
38	180	55	178
47	176	58	176
40	180	70	176
43	170	64	162
44	176	63	174
38	186	48	170

Figure 6.10. Data Listing

Creating a Table

A summary table can often help you spot important features of the data that are not apparent from a simple data listing.

To create a summary table, select **Reports** → **Tables** . . .

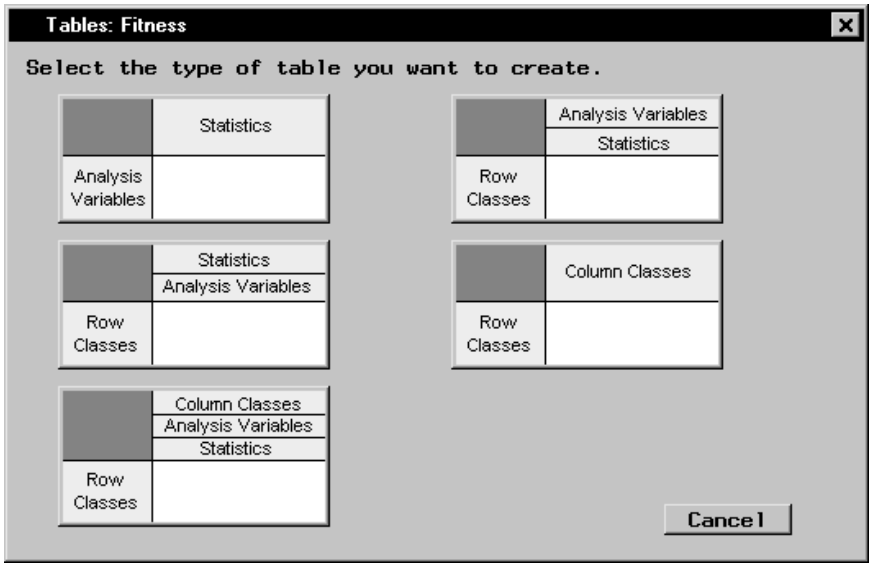


Figure 6.11. Reports Menu

Select a report style to specify the format and variables to be displayed.

First Report Style

The first report style displays analysis variables as rows and statistics as columns.

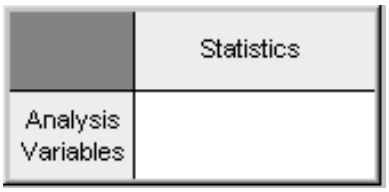


Figure 6.12. First Report Style

Statistics

In the **Statistics** tab, select one or more statistics from the candidate list and click on the **Statistics** button to apply the statistics to the data in your report.

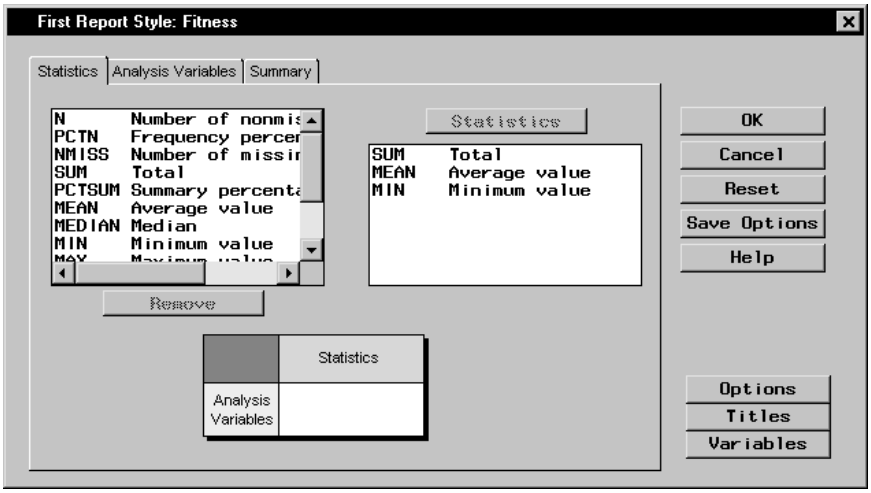


Figure 6.13. Statistics Tab

Analysis Variables

An analysis variable is a variable for which statistics are computed. In the **Analysis Variables** tab, select one or more analysis variables from the candidate list and click on the **Analysis Variables** button to use these as analysis variables in your report.

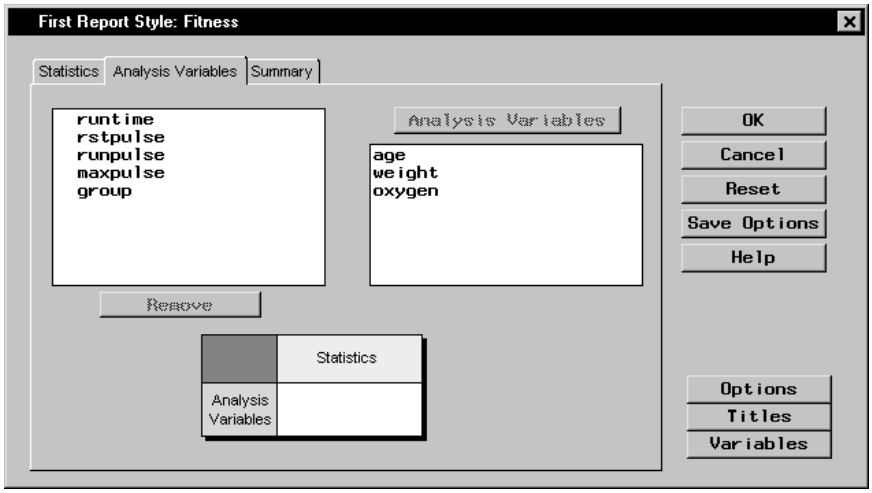


Figure 6.14. Analysis Variables Tab

Summary

The **Summary** tab displays all of your selections. You can change the order of statistics and analysis variables by selecting the items in their lists and clicking the up and down arrows to change their position. Columns and rows in the resulting table are displayed in the tree view on the right.

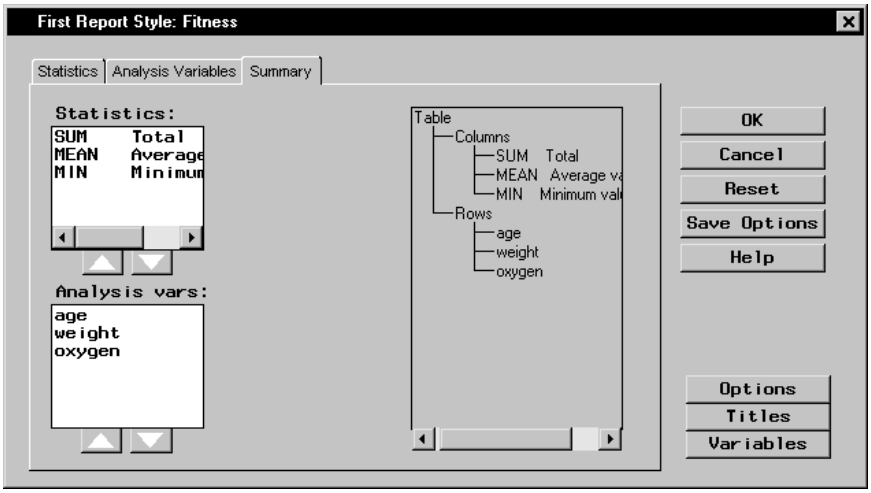


Figure 6.15. Summary Tab

Second Report Style

The second report style displays levels of class variables as rows and statistics for analysis variables as columns.

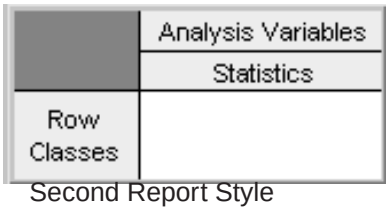


Figure 6.16. Second Report Style

As with the first report style, the second report style also has **Statistics**, **Analysis Variables**, and **Summary** tabs. In addition, it also has a **Row Classes** tab.

Row Classes

In the **Row Classes** tab, select one or more class variables from the candidate list and click on the **Row Classes** button to display rows in your report according to their levels.

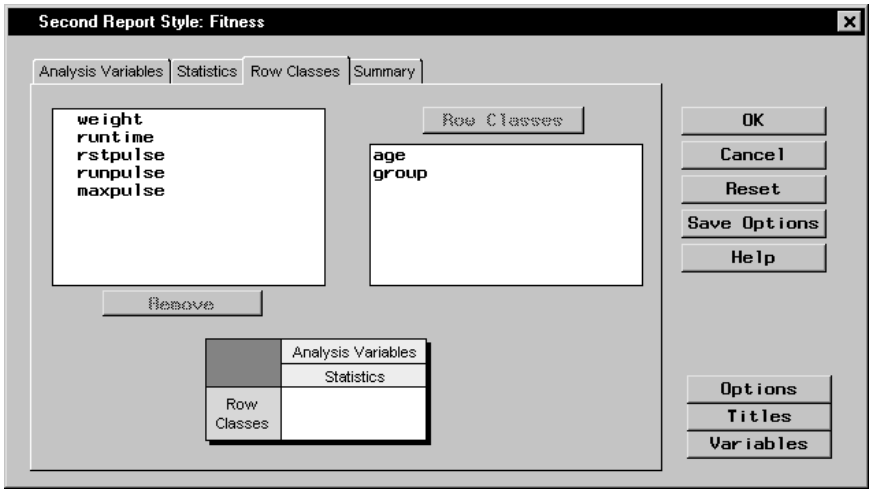


Figure 6.17. Row Classes Tab

Third Report Style

The third report style displays levels of class variables as rows and statistics for analysis variables as columns.

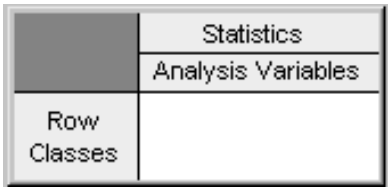


Figure 6.18. Third Report Style

The third report style contains the same tabs as the second report style; it differs from the second report style in the hierarchy of column headings.

Fourth Report Style

The fourth report style displays levels of class variables as both rows and columns, with cells of the table containing the frequency of that combination of levels.

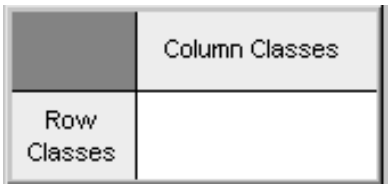


Figure 6.19. Fourth Report Style

As with the other report styles, the fourth report style has a **Summary** tab. As with the second and third report styles, the fourth report style has a **Row Classes** tab. In addition, this report style has a **Column Classes** tab.

Column Classes

In the **Column Classes** tab, select one or more class variables from the candidate list and click on the **Column Classes** button to display columns in your report according to their levels.

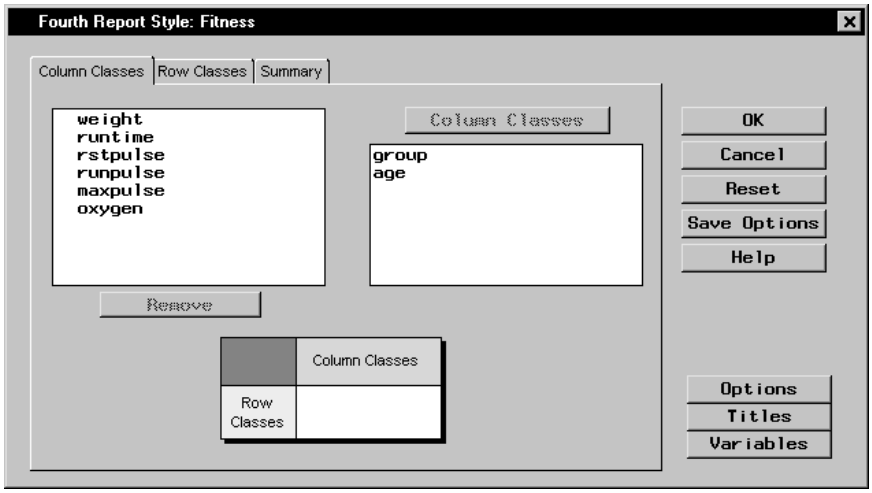


Figure 6.20. Column Classes Tab

Fifth Report Style

The fifth report style displays levels of class variables as rows and statistics for analysis variables at levels of other class variables as columns.

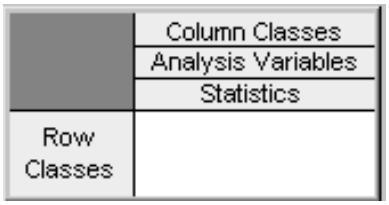


Figure 6.21. Fifth Report Style

As with other report styles, the fifth report style has a **Column Classes**, an **Analysis Variables**, a **Statistics**, a **Row Classes**, and a **Summary** tab.

Example: Create a Tabular Report

Open the Class Data Set

In this example, you use the Class data set as the basis of your report. To open the Class data set, follow these steps:

1. Select **Tools** → **Sample Data** . . .
2. Select Class.
3. Click **OK** to create the sample data set in your Sasuser directory.
4. Select **File** → **Open By SAS Name** . . .
5. Select Sasuser from the list of **Libraries**.
6. Select Class from the list of members.
7. Click **OK** to bring the Class data set into the data table.

Choose a Report Style

Use the fifth report style to display the average weights by age and sex in the Class data set. To choose a report style, follow these steps:

1. Select **Reports** → **Tables** . . .
2. Select the fifth report style.

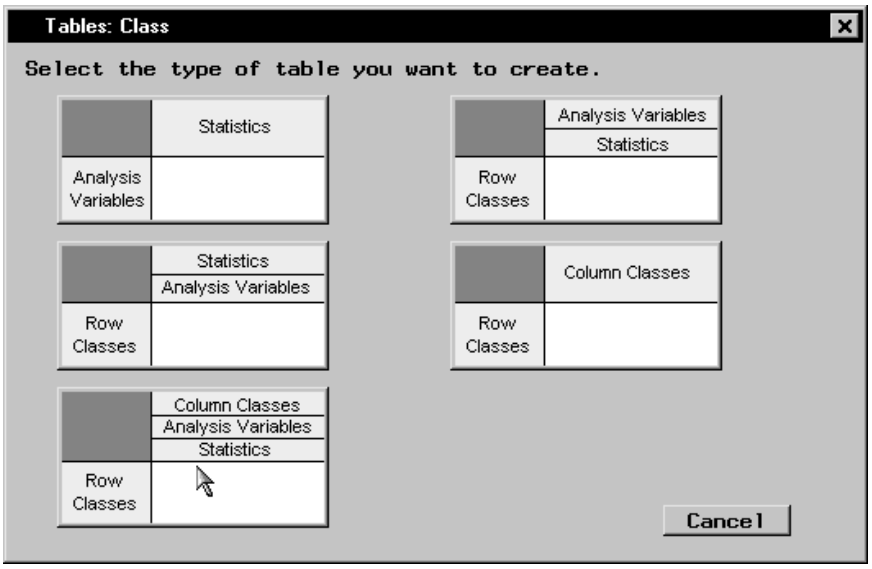


Figure 6.22. Select the Fifth Report Style

Specify Rows and Columns

To specify the rows and columns for your report, follow these steps:

1. In the **Column Classes** tab, select sex from the candidate list and click on the **Column Classes** button to display the values of sex as columns in your report.

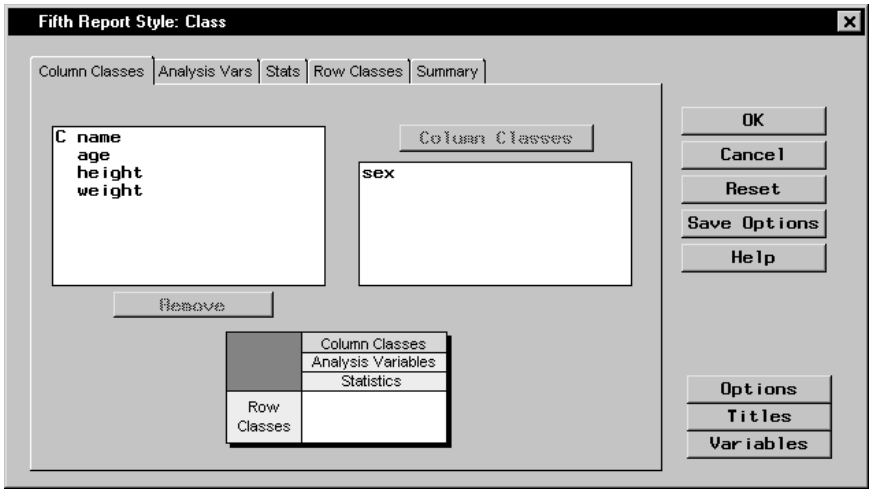


Figure 6.23. Select a Column Class

2. Click on the **Analysis Vars** tab. Select weight from the list and click on the **Analysis Variables** button to make weight the analysis variable in your report.

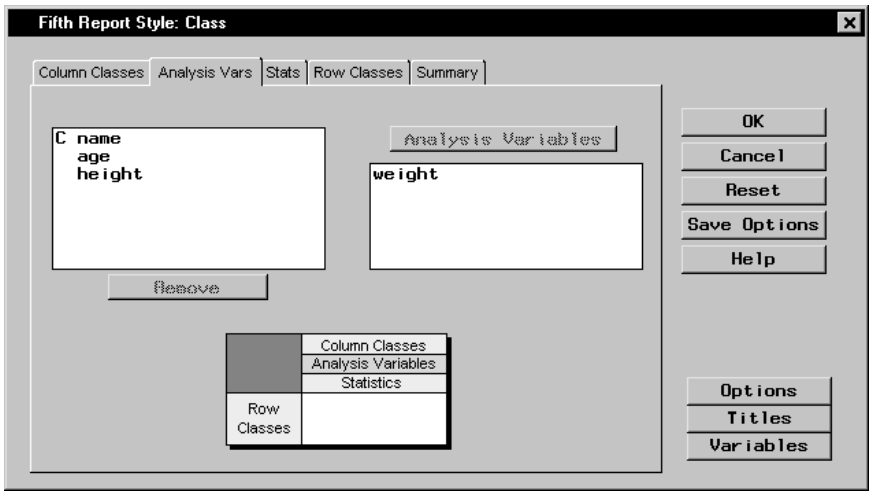


Figure 6.24. Select an Analysis Variable

3. Click on the **Stats** tab. Select **MEAN** from the list and click on the **Statistics** button to display the average weight.

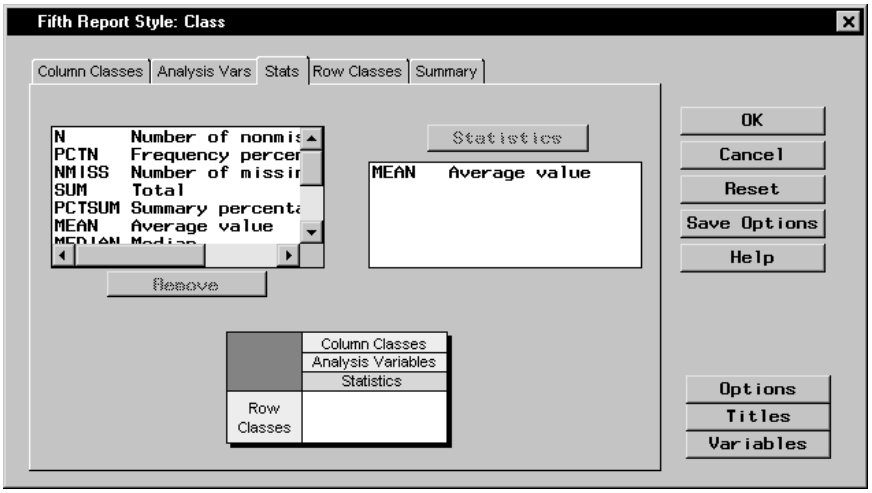


Figure 6.25. Select a Statistic

4. Click on the **Row Classes** tab. Select age from the list and click on the **Row Classes** button to display the values of age as the rows in your report.

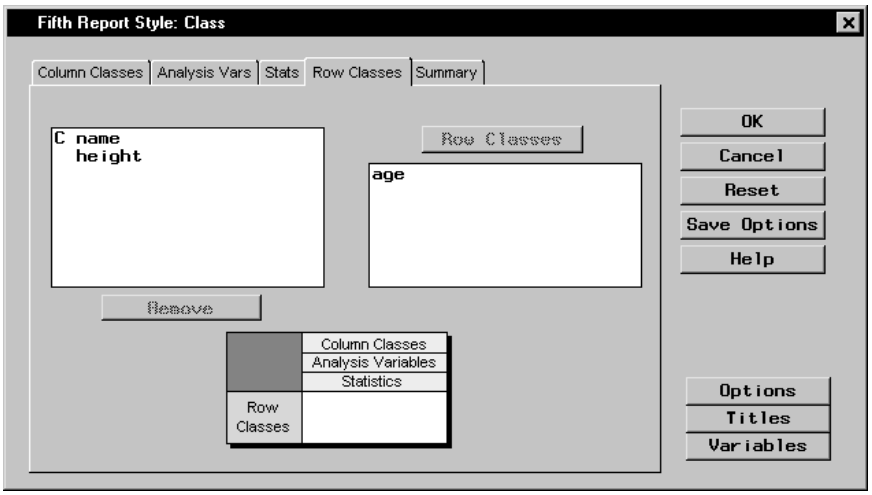


Figure 6.26. Select a Row Class

5. Click on the **Summary** tab to see the results of your selections.

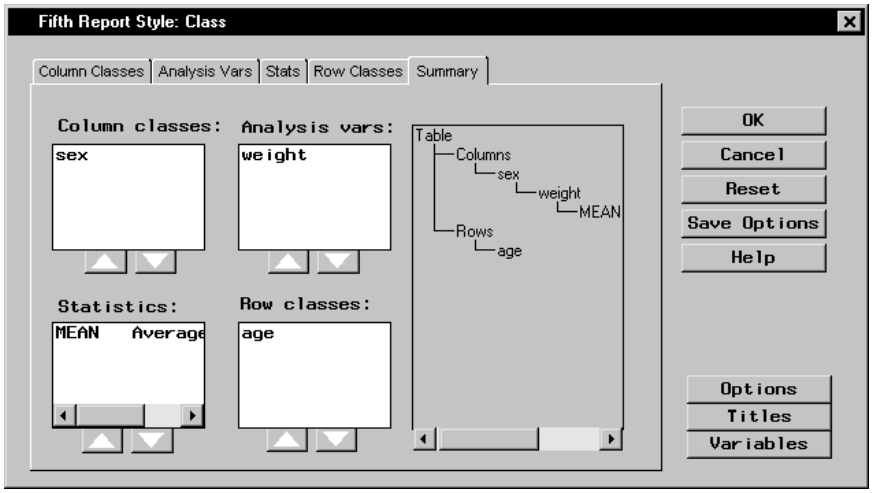


Figure 6.27. Report Layout

Specify Report Options

To specify the options for your report, follow these steps:

1. Click on the **Options** button in the Fifth Report Style dialog.
2. In the **General** tab, select **Include summary row**. Click **Bottom** to display a summary row at the bottom of each column.

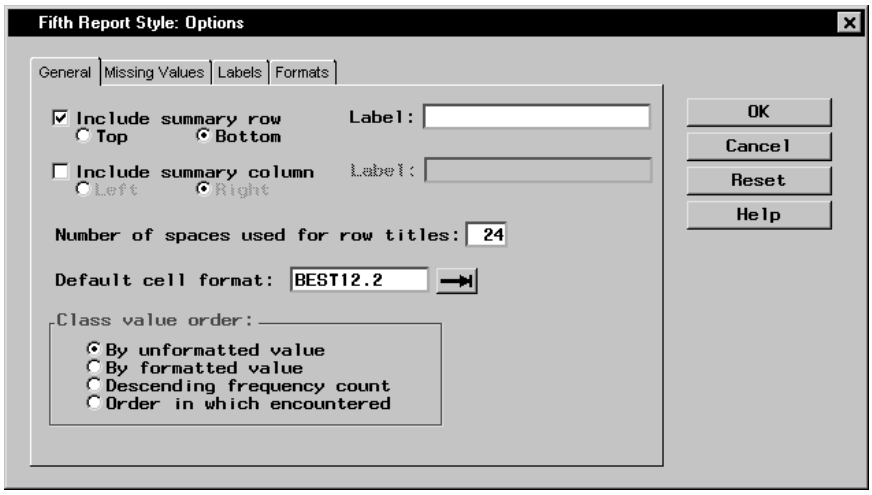


Figure 6.28. Include Summary Row

3. Click on the **Missing Values** tab. Type **No Students** in the **Missing value text:** field.

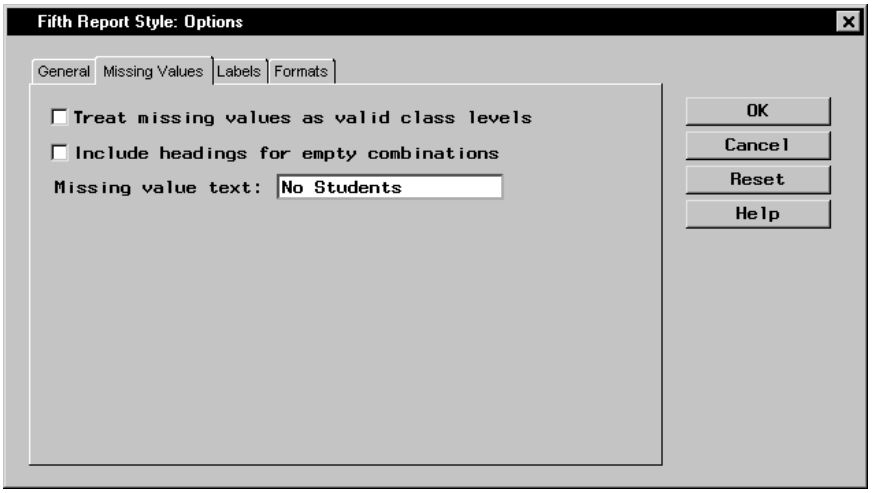


Figure 6.29. Type Missing Value Text

4. Click **OK** to save your changes and return to the Fifth Report Style dialog.

Specify Report Titles

To create a title and suppress the date and page numbers in your report, follow these steps:

1. Select the **Titles** button in the Fifth Report Style dialog.
2. In the **Table** tab, type **Average Weights by Age and Sex** in the first field.
3. Select **Override global titles** to suppress the title from the previous example.

Figure 6.30. Add a Title

4. Click on the **Settings** tab. Deselect **Include date** and **Include page numbers** so that the date and page numbers are not displayed in your report.

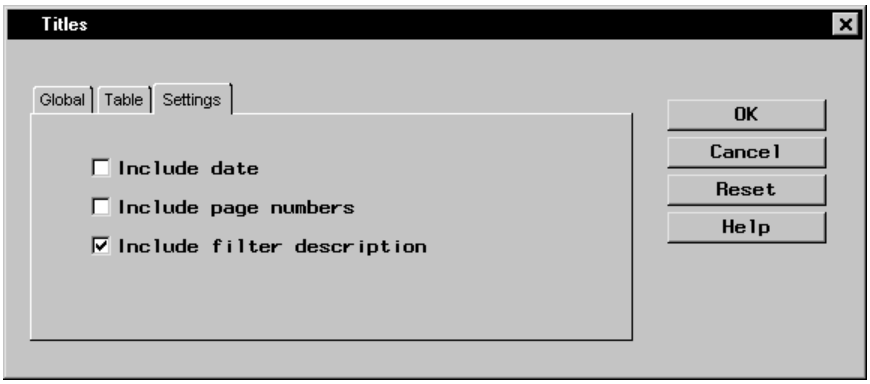


Figure 6.31. Suppress Date and Page Numbers

5. Click **OK** to save your changes and to return to the Fifth Report Style dialog.

Display Your Report

To display your report in the fifth report style, click **OK** in the Fifth Report Style dialog.

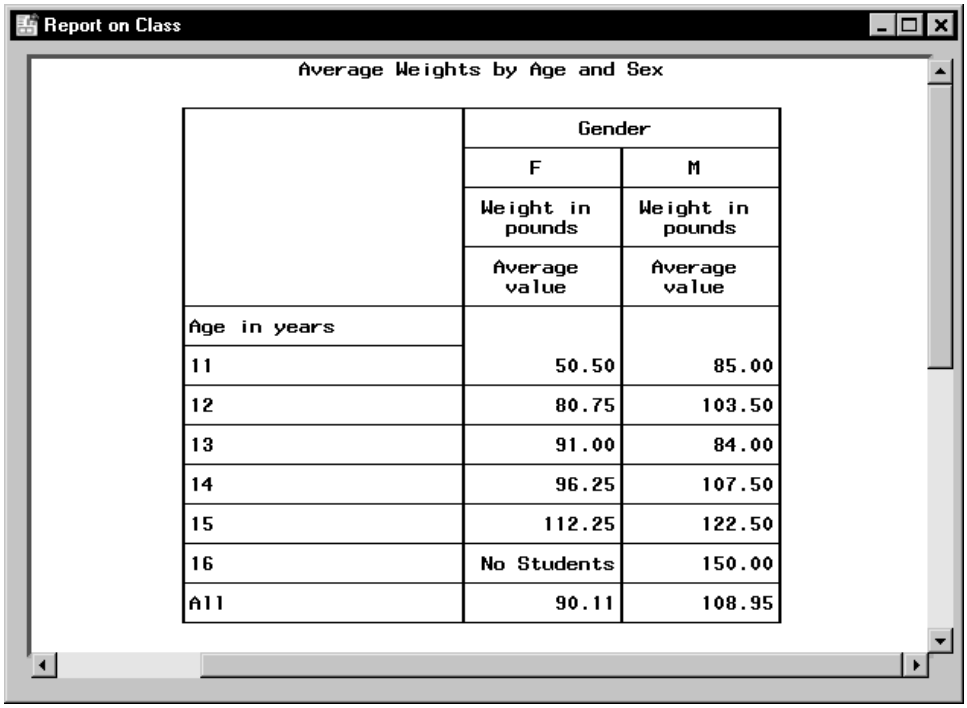


Figure 6.32. Display Report in Fifth Report Style

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