Python Scripting Guide for IBM SPSS Statistics

Note: Before using this information and the product it supports, read the general information under Notices on p. 209.

This edition applies to IBM® SPSS® Statistics 21 and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter
1

Introduction to Python Scripts

The Scripting Facility for IBM® SPSS® Statistics provides the ability to create **Python® scripts** that operate on the SPSS Statistics user interface, manipulate output objects, and run command syntax. This feature requires the IBM® SPSS® Statistics - Integration Plug-in for Python, installed with IBM® SPSS® Statistics - Essentials for Python.

A companion interface is available for creating **Python programs** that enable you to control the flow of command syntax jobs, read and write data, and create custom procedures. For information, see the topic for the Python Integration Package for IBM SPSS Statistics, under Integration Plug-in for Python in the Help system.

Scope

You can run Python scripts directly from within SPSS Statistics, from within Python programs, or from an external Python process, such as a Python IDE or the Python interpreter.

Python Script Run from SPSS Statistics. You can run a Python script from Utilities>Run Script or from the Python script editor which is launched when opening a Python file (.py) from File>Open>Script. Scripts run from the Python editor that is launched from SPSS Statistics operate on the SPSS Statistics client that launched the editor. This allows you to debug your Python code from a Python editor.

Python Script Run from an External Python Process. You can run a Python script from any external Python process, such as a Python IDE that is not launched from SPSS Statistics, or the Python interpreter. The script will attempt to connect to an existing SPSS Statistics client. If more than one client is found, a connection is made to the most recently launched one. If an existing client is not found, the Python script starts up a new instance of the SPSS Statistics client. By default, the Data Editor and Viewer are invisible for the new client. You can choose to make them visible or work in invisible mode with datasets and output documents.

- **Mac.** To run a Python script from an external Python process on Mac, launch the *Programmability External Python Process* application, installed with Essentials for Python and located in the directory where SPSS Statistics is installed. The application launches IDLE (the default IDE provided with Python) and sets environment variables necessary for driving SPSS Statistics.

Python Script Run from Python Program. You can run a Python script from a Python program by importing the Python module containing the script and calling the function in the module that implements the script. You can also call Python script methods directly from within a Python program. For more information, see the topic Running Python Scripts from Python Programs on p. 6.

- This feature is not available when running a Python program from an external Python process or when running a Python program from the SPSS Statistics Batch Facility (available with SPSS Statistics Server).

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- When running Python scripting code from a Python program in distributed mode, you may need to configure your firewall to allow access from the remote server to which you are connected.

Limitations

- The interfaces exposed by the `spss` module (the module used for Python programs) cannot be used in a Python script.
- Calling methods in the `SpssClient` module with keyword arguments—in other words, keyword = value—is not supported.

Help

General information on the Scripting Facility for SPSS Statistics and additional information on Python scripts is available from Core System>Scripting Facility in the Help system.

Working with Multiple Versions of IBM SPSS Statistics

Multiple versions of the IBM® SPSS® Statistics - Integration Plug-in for Python can be used on the same machine, each associated with a major version of IBM® SPSS® Statistics, such as 20 or 21.

Running Python Scripts from Within IBM SPSS Statistics

By default, Python scripts run from within the last installed version of SPSS Statistics will automatically use the appropriate version of the plug-in. To run Python scripts from within a different version of SPSS Statistics, use the SpssClient.SetDefaultJCVersion method to set the default to a different version (the setting persists across sessions). You can then run Python scripts from within the other version. If you are attempting to change the default version from 16.0 to 17.0, additional configuration is required; please see the Notes below.

Running Python Scripts from an External Python Process

When running Python scripts from a separate Python process, such as the Python interpreter or a Python IDE, the plug-in will drive the version of SPSS Statistics that matches the default plug-in version specified for that version of Python. Unless you change it, the default plug-in version for a given version of Python (such as Python 2.7) is the last one installed. You can view the default version using the SpssClient.GetDefaultJCVersion method and you can change the default version using the SpssClient.SetDefaultJCVersion method. The setting persists across sessions. If you are attempting to change the default version from 16.0 to 17.0, additional configuration is required; please see the Notes below.

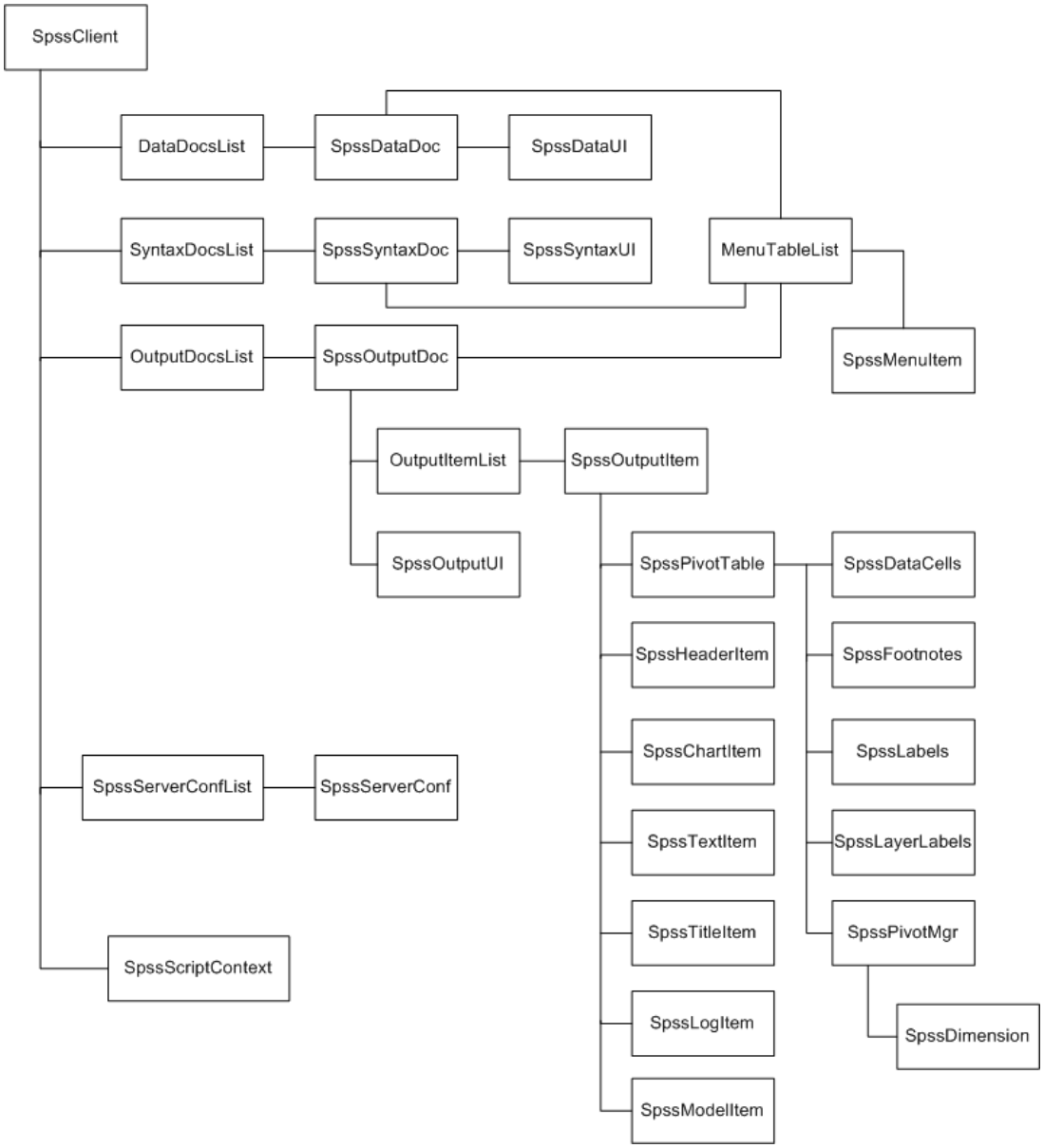
Notes

To change the default version from 16.0 to 17.0, you will need to manually modify the file *SpssClient.pth* located in the Python 2.5 *site-packages* directory. Change the order of entries in the file so that the first line is `SpssClient170`. You should also ensure that the first line in *spss.pth* (also located in *site-packages*) is `spss170`.

- **Windows.** The *site-packages* directory is located in the *Lib* directory under the Python 2.5 installation directory—for example, *C:\Python25\Lib\site-packages*.
- **Mac OS X 10.4 (Tiger).** The *site-packages* directory is located at */Library/Frameworks/Python.framework/Versions/2.5/lib/python2.5/site-packages*.
- **Mac OS X 10.5 (Leopard).** The *site-packages* directory is located at */Library/Python/2.5/site-packages*.
- **Linux and UNIX Server.** The *site-packages* directory is located in the */lib/python2.5/* directory under the Python 2.5 installation directory—for example, */usr/local/python25/lib/python2.5/site-packages*.

Class Hierarchy for Scripting Facility

The following diagram shows the hierarchy of classes available to Python scripts.



Getting Started with Python Scripts

The basic structure of a Python script is:

```
import SpssClient
SpssClient.StartClient()
<Python language statements>
SpssClient.StopClient()
```

- The `import SpssClient` statement imports the Python module containing the IBM® SPSS® Statistics classes and methods available in the Python scripting interface.

- `SpssClient.StartClient()` provides a connection to the associated SPSS Statistics client, enabling the script to retrieve information from the client and to perform operations on objects managed by the client, such as pivot tables. Whether the script connects to an existing client or starts up a new client depends on how the script was invoked. For more information, see the topic Introduction to Python Scripts on p. 1.
- `SpssClient.StopClient()` terminates the connection to the SPSS Statistics client and should be called at the completion of each Python script.

  Note: If you're running a Python script from an external Python process that starts up a new client, call `SpssClient.Exit()` before `SpssClient.StopClient()`.

Example

This script accesses the designated output document and sets each of the pivot tables as selected.

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.PIVOT:
         OutputItem.SetSelected(True)
SpssClient.StopClient()
```

Target for Standard output

The Python `print` statement writes output to Python's standard output. When you run a Python script from Utilities>Run Script, Python's standard output is directed to a log item in the SPSS Statistics Viewer.

Getting Started with Autoscripts in Python

Autoscripts are scripts that run automatically when triggered by the creation of specific pieces of output from selected procedures and typically require a reference to the object that triggered the script. They may also require a reference to the associated output document and possibly the index of the output item in the output document. These values are obtained from the `SpssScriptContext` object, as shown in this example of an autoscript that transposes the rows and columns of a pivot table.

```
import SpssClient
SpssClient.StartClient()

SpssScriptContext = SpssClient.GetScriptContext()
SpssOutputItem = SpssScriptContext.GetOutputItem()
SpssPivotTable = SpssOutputItem.GetSpecificType()
SpssPivotMgr = SpssPivotTable.PivotManager()
SpssPivotMgr.TransposeRowsWithColumns()

SpssClient.StopClient()
```

- `SpssClient.GetScriptContext` returns an `SpssScriptContext` object that provides values for use by the autoscript.
- The `GetOutputItem` method of the `SpssScriptContext` object returns the output item that triggered the current autoscript—in this example, the pivot table whose rows and columns are to be transposed.

Although not used in this example, the `GetOutputDoc` method of the `SpssScriptContext` object returns the associated output document, and the `GetOutputItemIndex` method returns the index (in the associated output document) of the output item that triggered the autoscript.

General information on autoscripts is available from Core System>Scripting Facility in the Help system.

Detecting When a Script is Run as an Autoscript

Using the `GetScriptContext` method, you can detect when a script is being run as an autoscript. This allows you to code a script so that it functions in either context (autoscript or not). This trivial script illustrates the approach.

```
import SpssClient
SpssClient.StartClient()

SpssScriptContext = SpssClient.GetScriptContext()
if SpssScriptContext == None:
   print "I'm not an autoscript"
else:
   print "I'm an autoscript"

SpssClient.StopClient()
```

- When a script is not run as an autoscript, the `GetScriptContext` method will return a value of `None`.
- Given the `if-else` logic in this example, you would include your autoscript-specific code in the `else` clause. Any code that is not to be run in the context of an autoscript would be included in the `if` clause. Of course you can also include code that is to be run in either context.

Running Python Scripts from Python Programs

You can run Python scripts from Python programs and you can call Python script methods from within a Python program. This allows you to write Python programs that operate on user interface and output objects.

- This feature is only available when running a Python program from the IBM® SPSS® Statistics client—within a `BEGIN PROGRAM-END PROGRAM` block in command syntax or within an extension command. It is not available when running a Python program from an external Python process.
- When running Python scripting code from a Python program in distributed mode, you may need to configure your firewall to allow access from the remote server to which you are connected.

Example: Calling a Python Script from a Python Program

This example shows a Python program that creates a custom pivot table and calls a Python script to make the column labels of the table bold.

```
BEGIN PROGRAM.
import spss, MakeColsBold
spss.StartProcedure("Demo")
table = spss.BasePivotTable("Sample Table","OMS subtype")
table.SimplePivotTable(rowlabels = ["1","2"],
                       collabels = ["A","B"],
                       cells = ["1A","1B","2A","2B"])
spss.EndProcedure()
MakeColsBold.Run("Sample Table")
END PROGRAM.
```

- Python programs use the interface exposed by the Python `spss` module, so the first line of the program contains an `import` statement for that module. The Python script is assumed to be contained in a Python module named `MakeColsBold`, so the `import` statement also includes that module.
- The code from `spss.StartProcedure` to `spss.EndProcedure` creates a pivot table titled “Sample Table”.
- `MakeColsBold.Run("Sample Table")` calls the `Run` function in the `MakeColsBold` module and passes the value “Sample Table” as the argument. The `Run` function implements the Python script to make the column labels of the specified table bold.

The content of the `MakeColsBold` module is as follows:

```
import SpssClient

def Run(tableName):
   SpssClient.StartClient()
   OutputDoc = SpssClient.GetDesignatedOutputDoc()
   OutputItems = OutputDoc.GetOutputItems()
   for index in range(OutputItems.Size()):
      OutputItem = OutputItems.GetItemAt(index)
      if OutputItem.GetType() == SpssClient.OutputItemType.PIVOT \
        and OutputItem.GetDescription() == tableName:
         PivotTable = OutputItem.GetSpecificType()
         ColumnLabels = PivotTable.ColumnLabelArray()
         for i in range(ColumnLabels.GetNumColumns()):
            ColumnLabels.SelectLabelAt(1,i)
         PivotTable.SetTextStyle(SpssClient.SpssTextStyleTypes.SpssTSBold)
   SpssClient.StopClient()
```

- The `import SpssClient` statement is needed to access the classes and methods available in the Python scripting interface.
- The module contains a single function named `Run`, which implements the script. It takes a single argument that specifies the name of the table to modify. There is nothing special about the name *Run* and the module is not limited to a single function. You can create a module that contains many functions, each of which implements a different script.
- The `Run` function calls `SpssClient.StartClient()` to provide a connection to the associated SPSS Statistics client and `SpssClient.StopClient()` to terminate the connection at the completion of the script.

Example: Calling Python Scripting Methods Directly from a Python Program

This example shows a Python program that creates a custom pivot table and makes direct calls to Python scripting methods to make the title of the table italic.

```
BEGIN PROGRAM.
import spss, SpssClient
spss.StartProcedure("Demo")
table = spss.BasePivotTable("Sample Table","OMS subtype")
table.SimplePivotTable(cells = ["A","B","C","D"])
spss.EndProcedure()

SpssClient.StartClient()
OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()
OutputItem = OutputItems.GetItemAt(OutputItems.Size()-1)
PivotTable = OutputItem.GetSpecificType()
PivotTable.SelectTitle()
PivotTable.SetTextStyle(SpssClient.SpssTextStyleTypes.SpssTSItalic)
SpssClient.StopClient()
END PROGRAM.
```

- The `import spss, SpssClient` statement provides access to the classes and methods available for Python programs (`spss`) as well as those for Python scripts (`SpssClient`).
- The code from `spss.StartProcedure` to `spss.EndProcedure` is the Python program code that creates the pivot table.
- The code from `SpssClient.StartClient()` to `SpssClient.StopClient()` is the Python script code that makes the title italic.

Chapter
2

SpssClient Class

The `SpssClient` class is the top level class for the IBM® SPSS® Statistics Python scripting interface. From an `SpssClient` object you can:

- Access the current data, syntax, or output document.
- Open and access a saved data, syntax, or output document.
- Create and access a new data, syntax, or output document.
- Obtain a list of all open data, syntax, or output documents.
- Run command syntax.
- Get and set options available from Edit>Options in the user interface.
- Get and set export options for exporting output.
- Get values pertinent to an autoscript, such as the output item that triggered the autoscript.
- Obtain information about configured instances of SPSS Statistics Server and configure new instances.

The `SpssClient` object is always available to a script, but you must call `SpssClient.StartClient` to establish a connection to the SPSS Statistics client before you can use any of the other methods in the class. For more information, see the topic Getting Started with Python Scripts in Chapter 1 on p. 4.

CreateNewServer Method

Creates a new server configuration and returns an `SpssServerConf` object. To add this server to the list of configured servers, use the `Add` method in the `SpssServerConfList` class. You can obtain an instance of `SpssServerConfList` from the `GetConfiguredServers` method in the `SpssClient` class.

Syntax

```
SpssServerConf=SpssClient.CreateNewServer(serverName,port,desc)
```

Parameters

serverName	The machine name or IP address of the IBM® SPSS® Statistics Server machine
port	Port number for SPSS Statistics Server
desc	Textual description of the server

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Exit Method

Terminates the instance of the IBM® SPSS® Statistics client associated with the current script. This method is intended for use when running a script from an external Python process (such as a Python IDE or the Python interpreter), and will terminate the instance of the SPSS Statistics client associated with the script. The method has no effect when called from a script that is run from within the SPSS Statistics client, either through Utilities>Run Script or from a Python IDE launched from File>Open>Script or File>New>Script.

Syntax

```
SpssClient.Exit()
```

GetActiveDataDoc Method

Returns the active dataset as an `SpssDataDoc` object.

Syntax

```
SpssDataDoc=SpssClient.GetActiveDataDoc()
```

GetConfiguredServers Method

Returns the list of configured servers as an `SpssServerConfList` object. The list consists of `SpssServerConf` objects for each of the configured servers, including the local computer.

Syntax

```
SpssServerConfList=SpssClient.GetConfiguredServers()
```

GetCurrentDirectory Method

Returns the current working directory of the IBM® SPSS® Statistics client.

Syntax

```
SpssClient.GetCurrentDirectory()
```

GetCurrentServer Method

Returns an `SpssServerConf` object representing the current server (may be an instance of IBM® SPSS® Statistics Server or the local computer).

Syntax

```
SpssServerConf=SpssClient.GetCurrentServer()
```

GetDataDocuments Method

Returns the list of open datasets as a DataDocsList object. Each item in the list is an `SpssDataDoc` object.

Syntax

```
DataDocsList=SpssClient.GetDataDocuments()
```

GetDefaultJCVersion Method

Returns a string specifying the default version of the IBM® SPSS® Statistics - Integration Plug-in for Python used for Python scripts—for example, `"SpssClient170"` for version 17.0. This method is useful when working with multiple versions of the plug-in on a given machine (see Note below). You can change the default using the SetDefaultJCVersion method.

Syntax

```
SpssClient.GetDefaultJCVersion()
```

Note: The methods for managing multiple versions of the plug-in (`SpssClient.GetDefaultJCVersion`, and `SpssClient.SetDefaultJCVersion`) operate within a given Python version, not across Python versions. For example, if you are driving IBM® SPSS® Statistics from a Python IDE installed for Python 2.7 then you can view and control the versions of the plug-in installed for Python 2.7.

For more information, see the topic Working with Multiple Versions of IBM SPSS Statistics in Chapter 1 on p. 2.

GetDefaultServer Method

Returns an `SpssServerConf` object representing the default server (may be an instance of IBM® SPSS® Statistics Server or the local computer).

Syntax

```
SpssServerConf=SpssClient.GetDefaultServer()
```

GetDesignatedOutputDoc Method

Returns an `SpssOutputDoc` object representing the designated output document.

- If you have more than one open output document, output is routed to the designated one.

Syntax

```
SpssOutputDoc=SpssClient.GetDesignatedOutputDoc()
```

GetDesignatedSyntaxDoc Method

Returns an SpssSyntaxDoc object representing the designated syntax document.

- If you have more than one open syntax document, command syntax is pasted into the designated one.

Syntax

```
SpssSyntaxDoc=SpssClient.GetDesignatedSyntaxDoc()
```

GetExportOption Method

Returns the value of the specified export option, as a string.

Syntax

```
SpssClient.GetExportOption(option)
```

Parameters

The value of *option* is the identifier SpssClient.ExportOptions, followed by a period (.) and the name of the option—for example, SpssClient.ExportOptions.GraphExportType. See Export Options for the available list of options.

GetLocale Method

Returns a string specifying the current locale. The locale consists of the language, country and char set information.

Syntax

```
SpssClient.GetLocale()
```

GetLocalServer Method

Returns an SpssServerConf object representing the local computer.

Syntax

```
SpssServerConf=SpssClient.GetLocalServer()
```

GetOutputDocuments Method

Returns the list of open output documents as an OutputDocsList object. Each item in the list is an SpssOutputDoc object.

Syntax

```
OutputDocsList=SpssClient.GetOutputDocuments()
```

GetPreference Method

Returns the value of the specified preference option, as a string.

Syntax

```
SpssClient.GetPreference(option)
```

The value of *option* is the identifier `SpssClient.PreferenceOptions`, followed by a period (.) and the name of the option—for example, `SpssClient.PreferenceOptions.VariableListDisplay`. See Preference Options for the available list of options.

GetScriptContext Method

Returns an SpssScriptContext object that allows you to determine the context in which a script is being run—as an autoscript, or not.

- When the script is being run as an autoscript, the returned `SpssScriptContext` object provides access to the output item that triggered the autoscript as well as the associated output document.
- When the script is not being run as an autoscript, `GetScriptContext` returns `None`.

Syntax

```
SpssScriptContext=SpssClient.GetScriptContext()
```

GetSPSSOptions Method

Returns a string which is a concatenation of three-letter abbreviations for each of the licensed options. You can determine if a specified option is available from the IsOptionAvailable method.

Syntax

```
options=SpssClient.GetSPSSOptions()
```

The options and associated three-letter abbreviations are as follows:

Bas	Base
Pro	Regression
Adv	Advanced Statistics
Cyt	Exact Test
Cat	Categories

Mva	Missing Values
Con	Conjoint
Msa	Custom Tables
Csp	Complex Samples
Tre	Decision Trees
Vld	Data Preparation
Trd	Forecasting
Pes	Statistics Adaptor
Neu	Neural Networks
Rfm	RFM

GetSPSSPath Method

Returns a string specifying the path to the IBM® SPSS® Statistics installation directory.

Syntax

```
path=SpssClient.GetSPSSPath()
```

GetSPSSVersion Method

Returns a string specifying the IBM® SPSS® Statistics version.

Syntax

```
version=SpssClient.GetSPSSVersion()
```

GetSyntaxDocuments Method

Returns the list of open syntax documents as a SyntaxDocsList object. Each item in the list is an `SpssSyntaxDoc` object.

Syntax

```
SyntaxDocsList=SpssClient.GetSyntaxDocuments()
```

GetUIAlerts Method

Returns the current setting of UI alerts for the client. The result is Boolean.

Syntax

```
SpssClient.GetUIAlerts()
```

Returns

True	Alerts are displayed in the UI
False	UI alerts are suppressed

IsDataDocInUse Method

Indicates whether a specified data file is in use by another instance of IBM® SPSS® Statistics. The result is Boolean. The argument is a string specifying the path to the data file. *Note*: This method is not supported on Mac and Linux.

Syntax

```
SpssClient.IsDataDocInUse(fileName)
```

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (SPSS Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

IsDistributedMode

Indicates whether the scripting process is being run in distributed mode. The result is Boolean.

Syntax

```
SpssClient.IsDistributedMode()
```

IsOptionAvailable Method

Checks if the IBM® SPSS® Statistics client is licensed for a specified optional component. The result is Boolean. You can obtain a list of all available options from the GetSPSSOptions method.

Syntax

```
SpssClient.IsOptionAvailable(licOption)
```

Parameters

The parameter *licOption* specifies the option. The available values are:

SpssClient.LicenseOption.BASE	Base
SpssClient.LicenseOption.PRO_STATS	Regression
SpssClient.LicenseOption.ADVANCED_STATS	Advanced Statistics
SpssClient.LicenseOption.CYTEL	Exact Test
SpssClient.LicenseOption.MARKET_RESEARCH	Categories

SpssClient.LicenseOption.MISSING_VALUES	Missing Values
SpssClient.LicenseOption.CONJOINT	Conjoint
SpssClient.LicenseOption.CUSTOM_TABLES	Custom Tables
SpssClient.LicenseOption.COMPLEX_SAMPLE	Complex Samples
SpssClient.LicenseOption.TREEVIEW	Decision Trees
SpssClient.LicenseOption.VALIDATEDATA	Data Preparation
SpssClient.LicenseOption.TRENDS	Forecasting
SpssClient.LicenseOption.PES	Statistics Adaptor
SpssClient.LicenseOption.NEURAL_NETWORK	Neural Networks
SpssClient.LicenseOption.RFM	RFM

Returns

True	The option is available.
False	The option is not available or the license for the option has expired.

LogToViewer Method

Writes the specified content to the designated output document as a log item. The content is appended to the last log item in the output document.

Syntax

```
SpssClient.LogToViewer(content)
```

Parameters

content	A string

NewDataDoc Method

Creates a new dataset and makes it the active dataset. The method returns an SpssDataDoc object associated with the new dataset.

Syntax

```
SpssDataDoc=SpssClient.NewDataDoc()
```

NewOutputDoc Method

Creates a new output document and makes it the designated output document. The method returns an SpssOutputDoc object associated with the new output document.

Syntax

```
SpssOutputDoc=SpssClient.NewOutputDoc()
```

NewSyntaxDoc Method

Creates a new syntax document and makes it the designated syntax document. The method returns an SpssSyntaxDoc object associated with the new syntax document.

Syntax

```
SpssSyntaxDoc=SpssClient.NewSyntaxDoc()
```

OpenDataDoc Method

Opens the specified data document and makes it the active dataset. The method returns an SpssDataDoc object.

- This method is not available when called from a Python program in distributed mode (Python programs make use of the interface exposed by the Python `spss` module).

Syntax

```
SpssDataDoc=SpssClient.OpenDataDoc(fileName,password=None)
```

Parameters

fileName	The path and file name of the data document, as a string.
password	A string specifying the password required to open the file. Only applies to encrypted data files. The password can be specified as encrypted or unencrypted. Encrypted passwords are created when pasting command syntax, for an encrypted file, from the Save Data As dialog.

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (IBM® SPSS® Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

OpenOutputDoc Method

Opens the specified output document and makes it the designated output document. The method returns an SpssOutputDoc object. By default, the associated Viewer window is invisible. Use the SetVisible method from the `SpssOutputUI` class to make the Viewer window visible. You get an `SpssOutputUI` object using the GetOutputUI method of the `SpssOutputDoc` object.

Syntax

```
SpssOutputDoc=SpssClient.OpenOutputDoc(fileName,password=None)
```

Parameters

fileName	The path and file name of the output document, as a string.
password	A string specifying the password required to open the file. Only applies to encrypted output files. The password can be specified as encrypted or unencrypted. Encrypted passwords are created when pasting command syntax, for an encrypted file, from the Save Output As dialog.

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (IBM® SPSS® Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

OpenSyntaxDoc Method

Opens the specified syntax document and makes it the designated syntax document. The method returns an `SpssSyntaxDoc` object. By default, the associated Syntax Editor window is invisible. Use the SetVisible method from the `SpssSyntaxUI` class to make the Syntax Editor window visible. You get an `SpssSyntaxUI` object using the GetSyntaxUI method of the `SpssSyntaxDoc` object.

Syntax

```
SpssSyntaxDoc=SpssClient.OpenSyntaxDoc(fileName)
```

Parameters

fileName	The path and file name of the syntax document, as a string.

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (IBM® SPSS® Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

RunSyntax Method

Executes a set of syntax commands.

- The submitted commands are executed synchronously with any other submitted command syntax.
- This method cannot be called within a script that is run from the `SCRIPT` command. It is also not available when called from a Python program in distributed mode (Python programs make use of the interface exposed by the Python `spss` module).

Syntax

```
SpssClient.RunSyntax(syntaxCommands)
```

Parameters

syntaxCommands	A string specifying command syntax. If the string is empty, no error is returned and the script continues. Commands must end in a period (command terminator).

Example

```
SpssClient.RunSyntax("GET FILE='/examples/data/Employee data.sav'.")
```

To specify multiple commands, separate each command by the escape sequence for a linefeed, `"\n"`, or enclose the set of commands in a triple-quoted string, as in:

```
SpssClient.RunSyntax(r"""
GET FILE='/examples/data/Employee data.sav'.
SORT CASES BY gender.
SPLIT FILE
  LAYERED BY gender.
DESCRIPTIVES
  VARIABLES=salary salbegin jobtime prevexp
  /STATISTICS=MEAN STDDEV MIN MAX.
SPLIT FILE OFF.
""")
```

- The triple double quotes enclose a block of command syntax that is submitted for processing, retaining the line breaks. You can use either triple single quotes or triple double quotes, but you must use the same type (single or double) on both sides of the command syntax block.
- Notice that the triple-quoted expression is prefixed with the letter `r`. The `r` prefix to a string specifies Python's raw mode. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

SaveServers Method

Saves the set of configured servers so that new server configurations added during the current session will persist across sessions.

Syntax

```
SpssClient.SaveServers()
```

ScriptParameter Method

Retrieves a parameter passed to the script when calling the script from a `SCRIPT` command within command syntax. Only a single parameter can be passed and it must be a quoted string.

Syntax

```
SpssClient.ScriptParameter(0)
```

SetCurrentDirectory Method

Sets the current working directory of the IBM® SPSS® Statistics client to a specified value.

Syntax

```
SpssClient.SetCurrentDirectory(newDir)
```

Parameters

newDir	The absolute path to the new working directory, as a string.

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (SPSS Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

SetDefaultJCVersion Method

Sets the default version of the IBM® SPSS® Statistics - Integration Plug-in for Python used for Python scripts. This method is useful when working with multiple versions of the plug-in on a given machine (see Note below). The value of the argument is a quoted string or an integer specifying a plug-in version—for example, `"SpssClient160"` or `160` for version 16.0. You can view the default using the GetDefaultJCVersion method.

- `SetDefaultJCVersion` also sets the default version of the Integration Plug-in for Python used for Python programs (Python code that utilizes the `spss` module).

Syntax

```
SpssClient.SetDefaultJCVersion(version)
```

Note: The methods for managing multiple versions of the plug-in (`SpssClient.GetDefaultJCVersion`, and `SpssClient.SetDefaultJCVersion`) operate within a given Python version, not across Python versions. For example, if you are driving IBM® SPSS® Statistics from a Python IDE installed for Python 2.7 then you can view and control the versions of the plug-in installed for Python 2.7.

For more information, see the topic Working with Multiple Versions of IBM SPSS Statistics in Chapter 1 on p. 2.

SetExportOption Method

Sets the value of the specified export option to the value provided.

Syntax

```
SpssClient.SetExportOption(option,value)
```

Parameters

value	A string

For a list of the available export options and associated settings, see Appendix B on p. 202. The value of *option* is the identifier `SpssClient.ExportOptions`, followed by a period (.) and the name of the option—for example, `SpssClient.ExportOptions.GraphExportType`.

SetPreference Method

Sets the value of the specified preference option to the value provided.

Syntax

```
SpssClient.SetPreference(option,value)
```

Parameters

value	A string

For a list of the available preference options and settings, see Appendix D on p. 205. The value of *option* is the identifier `SpssClient.PreferenceOptions`, followed by a period (.) and the name of the option—for example, `SpssClient.PreferenceOptions.VariableListDisplay`.

SetUIAlerts Method

Specifies the setting of UI alerts for the IBM® SPSS® Statistics client.

Syntax

```
SpssClient.SetUIAlerts(showUIAlerts)
```

Parameters

showUIAlerts	True if alerts are to be displayed in the UI and False if UI alerts are to be suppressed.

If False is specified, any alerts triggered by script operations are propagated to the script as an exception.

StartClient Method

Establishes a connection to the IBM® SPSS® Statistics client and is required for every Python script.

- If the script is run from an external Python process (such as a Python IDE or the Python interpreter), an attempt is made to connect to an existing SPSS Statistics client. If more than one client is found, a connection is made to the most recently launched one. If an existing client is not found, a new and invisible instance of the SPSS Statistics client is started and a connection to it is established.
- `SpssClient.StopClient()` should be called at the completion of the script. To ensure that `StopClient()` is called, it is recommended to include the call in the `finally` clause of a `try` statement—for example, by including the body of the script in a `try` statement. If the script is being run from an external Python process that starts up a new client, call `SpssClient.Exit()` before `SpssClient.StopClient()`.

Syntax

```
SpssClient.StartClient()
```

StopClient Method

Terminates the connection to the IBM® SPSS® Statistics client. This method should be called at the completion of each Python script. To ensure that `StopClient()` is called, it is recommended to include the call in the `finally` clause of a `try` statement—for example, by including the body of the script in a `try` statement.

Syntax

```
SpssClient.StopClient()
```

_heartBeat Method

The `_heartBeat` method is a utility function for use with thread-aware debuggers that pause all threads at a breakpoint. If you are using such a debugger, then you will need to disable the `SpssClient` heartbeat function (which is enabled by default) during debugging; otherwise the scripting session may terminate at a breakpoint due to a failed heartbeat.

Syntax

To set the heartbeat status, use:

```
SpssClient._heartBeat(status)
```

To get the heartbeat status, use:

```
SpssClient._heartBeat()
```

Parameters

status	True to enable the heartbeat function, False to disable the heartbeat function.

Returns

True	The heartbeat function is enabled.
False	The heartbeat function is disabled.

Chapter
3

Datasets and Data Editor Windows

SpssDataDoc Class

The `SpssDataDoc` class represents an open dataset.

Example: Obtaining the Active Dataset

```
import SpssClient
SpssClient.StartClient()
ActiveDataDoc = SpssClient.GetActiveDataDoc()
```

- The variable *ActiveDataDoc* is an `SpssDataDoc` object for the active dataset.

Example: Obtaining the First Opened Dataset

```
import SpssClient
SpssClient.StartClient()
DataDocsList = SpssClient.GetDataDocuments()
FirstDataDoc = DataDocsList.GetItemAt(0)
```

- `SpssClient.GetDataDocuments()` returns a `DataDocsList` object, which provides access to all open datasets.
- The `GetItemAt` method from the `DataDocsList` class is used to get the dataset with index 0 (the first opened dataset) from the list of open datasets. The variable *FirstDataDoc* is an `SpssDataDoc` object for this dataset.

CloseDocument Method

Closes the dataset. If the dataset is the last open dataset then the instance of the IBM® SPSS® Statistics client associated with the current script is terminated.

Syntax

```
SpssDataDoc.CloseDocument()
```

GetCaseCount Method

Returns the number of cases in the dataset.

Syntax

```
SpssDataDoc.GetCaseCount()
```

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GetDatasetName Method

Returns the dataset name. If the dataset is unnamed, an empty string is returned.

Syntax

```
SpssDataDoc.GetDatasetName()
```

GetDataUI Method

Returns an SpssDataUI object representing the Data Editor window of the associated dataset, if one exists.

Syntax

```
SpssDataUI=SpssDataDoc.GetDataUI()
```

GetDocumentPath Method

Returns the path and file name of the data file associated with this dataset object, or the empty string if the dataset is not associated with a file.

Syntax

```
SpssDataDoc.GetDocumentPath()
```

Note: If you reopen a data file that is currently open, the `GetDocumentPath` method will return the empty string when called on the `SpssDataDoc` object associated with the reopened instance of the file.

GetMenuTable Method

Returns a MenuTableList object containing the list of available menu items for the data document.

Syntax

```
MenuTableList = SpssDataDoc.GetMenuTable()
```

GetVariableCount Method

Returns the number of variables in the associated dataset.

Syntax

```
SpssDataDoc.GetVariableCount()
```

IsActiveDataDoc Method

Indicates if this dataset is the active one. The result is Boolean—*True* if the dataset is the active one, *False* otherwise.

Syntax

```
SpssDataDoc.IsActiveDataDoc()
```

IsEqualTo Method

Indicates if this dataset object is the same object as a specified dataset object. The result is Boolean—*True* if the two objects are identical, *False* otherwise.

Syntax

```
SpssDataDoc.IsEqualTo(dataDoc)
```

Parameters

dataDoc	An `SpssDataDoc` object

IsModified Method

Indicates whether the dataset has been modified. The result is Boolean—*True* if the dataset has been modified, *False* otherwise.

Syntax

```
SpssDataDoc.IsModified()
```

IsPromptToSave Method

Indicates if the 'prompt to save' flag is set for this dataset object. The result is Boolean—*True* if the 'prompt to save' flag has been set, *False* otherwise.

Syntax

```
SpssDataDoc.IsPromptToSave()
```

SaveAs Method

Saves the dataset to the specified file.

Syntax

```
SpssDataDoc.SaveAs(fileName,password=None)
```

Parameters

fileName	The path and file name of the data file, as a string.
password	An optional string specifying the password that will be required to open the file. Only applies if you want to encrypt the data file. Passwords are limited to 10 characters and are case-sensitive. All spaces, including leading and trailing spaces, are retained.

Note: The save operation is carried out asynchronously, which means that execution continues without waiting for the save operation to complete. If you require subsequent access to the saved file using the Python `open` function, you can attempt to open the file from a `try` block within a `while` loop, continuing to loop until the open operation succeeds.

Creating strong passwords

- Use eight or more characters.
- Include numbers, symbols and even punctuation in your password.
- Avoid sequences of numbers or characters, such as `"123"` and `"abc"`, and avoid repetition, such as `"111aaa"`.
- Do not create passwords that use personal information such as birthdays or nicknames.
- Periodically change the password.

Warning: Passwords cannot be recovered if they are lost. If the password is lost the file cannot be opened.

Note: Encrypted files cannot be opened in versions of IBM® SPSS® Statistics prior to version 21.

SetAsActiveDataDoc Method

Sets this dataset as the active one.

Syntax

```
SpssDataDoc.SetAsActiveDataDoc()
```

SetDatasetName Method

Sets the dataset name. The argument is a string.

Syntax

```
SpssDataDoc.SetDatasetName(name)
```

SetModified Method

Sets the modified status of the dataset.

Syntax

```
SpssDataDoc.SetModified(modified)
```

Parameters

modified	True to set the status to modified, False otherwise.

SetPromptToSave Method

Sets the 'prompt to save' flag for this dataset object.

Syntax

```
SpssDataDoc.SetPromptToSave(promptToSave)
```

Parameters

promptToSave	True to set the prompt to save flag, False otherwise.

DataDocsList Class

The `DataDocsList` class provides access to the list of open datasets. You obtain a `DataDocsList` object from the GetDataDocuments method of the `SpssClient` class.

A `DataDocsList` object is not an iterable Python object. In order to iterate over the items in the list, use a `for` loop, as in:

```
for index in range(DataDocsList.Size()):
```

For an example that uses the `DataDocsList` class, see the examples for the SpssDataDoc class.

GetItemAt Method

Returns an `SpssDataDoc` object representing the dataset with the specified index. The index corresponds to the order in which the datasets were opened, with the first opened document having an index of 0.

Syntax

```
SpssDataDoc=DataDocsList.GetItemAt(index)
```

Size Method

Returns the number of open datasets.

Syntax

```
DataDocsList.Size()
```

SpssDataUI Class

The SpssDataUI class represents the Data Editor window associated with an open dataset. You obtain an SpssDataUI object from the GetDataUI method of an SpssDataDoc object.

Example: Get the SpssDataUI Object Associated with the Active Dataset

```
import SpssClient
SpssClient.StartClient()
ActiveDataDoc = SpssClient.GetActiveDataDoc()
DataUI = ActiveDataDoc.GetDataUI()
```

- The variable *DataUI* is an SpssDataUI object for the Data Editor window associated with the active dataset.

GetHeight Method

Returns the height of the associated Data Editor window in units of pixels.

Syntax

```
SpssDataUI.GetHeight()
```

GetLeft Method

Returns the horizontal screen position of the associated Data Editor window's upper left corner. The result is in units of pixels.

Syntax

```
SpssDataUI.GetLeft()
```

GetShowGridLines Method

Return the setting for showing grid lines in the associated Data Editor window. The result is Boolean—*True* if grid lines are visible, *False* otherwise.

Syntax

```
SpssDataUI.GetShowGridLines()
```

GetShowValueLabels Method

Return the setting for displaying value labels in the associated Data Editor window. The result is Boolean—*True* if value labels are displayed, *False* otherwise.

Syntax

```
SpssDataUI.GetShowValueLabels()
```

GetTitleText Method

Returns the title bar text of the associated Data Editor window.

Syntax

```
SpssDataUI.GetTitleText()
```

GetTop Method

Returns the vertical screen position of the associated Data Editor window's upper left corner. The result is in units of pixels.

Syntax

```
SpssDataUI.GetTop()
```

GetVisible Method

Indicates if the associated Data Editor window is visible. The result is Boolean—*True* if the Data Editor window is visible, *False* otherwise.

Syntax

```
SpssDataUI.GetVisible()
```

GetWidth Method

Returns the width of the associated Data Editor window in units of pixels.

Syntax

```
SpssDataUI.GetWidth()
```

GetWindowState Method

Returns the state of the associated Data Editor window.

Syntax

```
SpssDataUI.GetWindowState()
```

Returns

SpssClient.SpssWindowStates.SpssMinimized	Minimized
SpssClient.SpssWindowStates.SpssMaximized	Maximized
SpssClient.SpssWindowStates.SpssNormal	Normal

InvokeDialog Method

Invokes a dialog and returns the syntax generated from that dialog, if any.

Syntax

```
syntax = SpssDataUI.InvokeDialog(menuItemPath,desktopParent)
```

Parameters

menuItemPath	Menu or menu item with path of the dialog to invoke. See below for detailed description.
desktopParent	True specifies that the dialog is parented off the desktop. False specifies that the dialog is parented off an IBM® SPSS® Statistics window.

Note: For release 19.0.0.2 and higher, the *bSync* parameter (available in previous releases) is deprecated. The `InvokeDialog` method always runs synchronously, meaning that the scripting process waits until the dialog has been dismissed. Older scripts containing the *bSync* parameter will continue to function in release 19.0.0.2 and higher, but the value of the parameter will be ignored.

Specifying The Menu Item Path

The value of the *menuItemPath* parameter is a string specifying the menu path to the desired dialog—for example “analyze>survival>life tables”. The greater-than sign (>) is used to separate a menu, its submenus and the menu item. The menu string must correspond exactly to the text on the menus, submenus, and menu items, and is language specific.

PrintDataDoc Method

Prints the document.

Syntax

```
SpssDataUI.PrintDataDoc()
```

SetHeight Method

Sets the height of the associated Data Editor window.

Syntax

```
SpssDataUI.SetHeight(height)
```

Parameters

height	An integer representing the height in pixels.

SetLeft Method

Sets the horizontal screen position of the associated Data Editor window's upper left corner.

Syntax

```
SpssDataUI.SetLeft(leftPosition)
```

Parameters

leftPosition	An integer representing the position in pixels.

SetShowGridLines Method

Specify the setting for showing grid lines in the associated Data Editor window.

Syntax

```
SpssDataUI.SetShowGridLines(isGridLines)
```

Parameters

isGridLines	True if grid lines are to be displayed, False otherwise.

SetShowValueLabels Method

Specify the setting for displaying value labels in the Data Editor window.

Syntax

```
SpssDataUI.SetShowValueLabels(isValueLabels)
```

Parameters

isValueLabels	True if value labels are to be displayed, False otherwise.

SetTop Method

Sets the vertical screen position of the associated Data Editor window's upper left corner.

Syntax

```
SpssDataUI.SetTop(topPosition)
```

Parameters

topPosition	An integer representing the position in pixels.

SetVisible Method

Sets the visibility of the associated Data Editor window.

Syntax

```
SpssDataUI.SetVisible(isVisible)
```

Parameters

isVisible	True to set the Data Editor window as visible, False otherwise.

SetWidth Method

Sets the width of the associated Data Editor window.

Syntax

```
SpssDataUI.SetWidth(width)
```

Parameters

width	An integer representing the width in pixels.

SetWindowState Method

Set the state of the associated Data Editor window.

Syntax

```
SpssDataUI.SetWindowState(newState)
```

Parameters

Set the value of *newState* to one of the following:

SpssClient.SpssWindowStates.SpssMinimized	Minimized
SpssClient.SpssWindowStates.SpssMaximized	Maximized
SpssClient.SpssWindowStates.SpssNormal	Normal

Chapter
4

Output Documents and Viewer Windows

SpssOutputDoc Class

The `SpssOutputDoc` class represents an open output document.

Example: Obtaining the Designated Output Document

```
import SpssClient
SpssClient.StartClient()
DesignatedOutputDoc = SpssClient.GetDesignatedOutputDoc()
```

- The variable *DesignatedOutputDoc* is an `SpssOutputDoc` object for the designated output document.

Example: Obtaining the First Opened Output Document

```
import SpssClient
SpssClient.StartClient()
OutputDocsList = SpssClient.GetOutputDocuments()
FirstOutputDoc = OutputDocsList.GetItemAt(0)
```

- `SpssClient.GetOutputDocuments()` returns an `OutputDocsList` object, which provides access to all open output documents.
- The `GetItemAt` method from the `OutputDocsList` class is used to get the output document with index 0 (the first opened output document) from the list of open output documents. The variable *FirstOutputDoc* is an `SpssOutputDoc` object for this output document.

Example: Create a New Output Document and Set it as the Designated One

```
import SpssClient
SpssClient.StartClient()
NewOutputDoc = SpssClient.NewOutputDoc()
NewOutputDoc.SetAsDesignatedOutputDoc()
```

- The variable *NewOutputDoc* is an `SpssOutputDoc` object for the new output document.

Accessing Output Items in an Output Document

You access individual output items, within an output document, from an `OutputItemList` object. You obtain an `OutputItemList` object from the GetOutputItems method of the `SpssOutputDoc` class. For more information, see the topic SpssOutputItem Class in Chapter 6 on p. 73.

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ClearSelection Method

Deselects all selected output items or pivot table elements.

Syntax

```
SpssOutputDoc.ClearSelection()
```

CloseDocument Method

Closes the output document.

Syntax

```
SpssOutputDoc.CloseDocument()
```

Copy Method

Copies selected items to the clipboard. Use this method with caution because it overwrites clipboard content. To improve performance when copying large pivot tables, consider using the CopySpecial method.

To select individual items, use the SetSelected method. You can also select all items of a given type, such as all tables using the SelectAllTables method.

Syntax

```
SpssOutputDoc.Copy()
```

CopySpecial Method

Copies selected items to the clipboard in a set of specified formats. Use this method with caution because it overwrites clipboard content. This method is especially useful when copying large pivot tables since you can limit the output to just the formats you need. In that regard, the `Copy` method generates output in all available formats.

To select individual items, use the SetSelected method. You can also select all items of a given type, such as all tables using the SelectAllTables method.

Syntax

```
SpssOutputDoc.CopySpecial(formats)
```

The value of *formats* is a list or tuple of one or more of the following format identifiers.

Format Identifier	Description
SpssClient.CopySpecialFormat.Text	plain text

SpssClient.CopySpecialFormat.Rtf	rich text format
SpssClient.CopySpecialFormat.Image	image
SpssClient.CopySpecialFormat.Emf	Windows enhanced metafile
SpssClient.CopySpecialFormat.Biff	excel worksheet in biff5 format

- The image format is a java raster image and is handled differently by different applications.
- The Windows enhanced metafile (emf) format is only supported when selecting a single output item to copy to the clipboard.

The list of available formats for each output type is given in the following table.

Type	Formats
SpssClient.OutputItemType.CHART	rich text, image or emf
SpssClient.OutputItemType.LOG	plain text, rich text or biff
SpssClient.OutputItemType.MODEL	image or emf
SpssClient.OutputItemType.NOTE	plain text, rich text, image, emf or biff
SpssClient.OutputItemType.PAGETITLE	plain text, rich text or biff
SpssClient.OutputItemType.PIVOT	plain text, rich text, image, emf or biff
SpssClient.OutputItemType.TEXT	plain text, rich text or biff
SpssClient.OutputItemType.TITLE	plain text, rich text or biff
SpssClient.OutputItemType.TREEMODEL	rich text or image
SpssClient.OutputItemType.WARNING	plain text, rich text, image, emf or biff

- If a specified format is not supported for a selected item then the format is ignored for that item. For example, you select a Log item and a Chart item and specify the plain text and image formats. The clipboard contains the Log item in plain text format and the Chart item as an image.

Example

The following copies a pivot table to the clipboard in rich text format only.

```
SpssOutputDoc.CopySpecial([SpssClient.CopySpecialFormat.Rtf])
```

CreateHeaderItem Method

Returns an `SpssOutputItem` object for a new header item. To insert the header item into the output document, use the InsertChildItem method in the `SpssHeaderItem` class.

Syntax

```
SpssOutputItem=SpssOutputDoc.CreateHeaderItem(label)
```

Parameters

label	A string specifying the label for the header item. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences.

CreateImageChartItem Method

Returns an `SpssOutputItem` object for a new chart item associated with an external image. This allows you to insert an external image of type *png*, *jpg*, or *gif* into an output document. To insert the chart item into the output document, use the InsertChildItem method in the `SpssHeaderItem` class.

Syntax

```
SpssOutputItem=SpssOutputDoc.CreateImageChartItem(fileName,label)
```

Parameters

fileName	Full path to the image file.
label	A string specifying the label for the chart item. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences.

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (IBM® SPSS® Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

CreateTextItem Method

Returns an `SpssOutputItem` object for a new text item. To insert the text item into the output document, use the InsertChildItem method in the `SpssHeaderItem` class.

Syntax

```
SpssOutputItem=SpssOutputDoc.CreateTextItem(content)
```

Parameters

content	A string specifying the content of the text item. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences.

CreateTitleItem Method

Returns an `SpssOutputItem` object for a new title item. To insert the title item into the output document, use the InsertChildItem method in the `SpssHeaderItem` class.

Syntax

```
SpssOutputItem=SpssOutputDoc.CreateTitleItem(title,pageBreak)
```

Parameters

title	A string specifying the title. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences.
pageBreak	True if this title item is to be a page title item, False otherwise.

Cut Method

Removes the selected data or text and places them on the clipboard. Use this method with caution because it overwrites clipboard content.

Syntax

```
SpssOutputDoc.Cut()
```

Delete Method

Deletes the selected items.

Syntax

```
SpssOutputDoc.Delete()
```

Demote Method

Demotes selected output items down one level within the hierarchy of the output tree.

- You cannot demote an item that is at the deepest level in the output tree and you cannot demote an item if there are unselected items at the same level immediately preceding it in the output tree.
- If the item has children, the children are also demoted.
- You cannot demote the root item.

Syntax

```
SpssOutputDoc.Demote()
```

You can promote items up one level with the Promote method.

ExportCharts Method

Exports charts from this output document.

Syntax

```
SpssOutputDoc.ExportCharts(subSet,filePrefix,format)
```

Parameters

subSet	Specifies whether all charts, all visible charts, or all selected charts are exported. See available choices below.
filePrefix	Full path and file name prefix for the files containing the exported charts. Each chart is exported to a separate file.
format	Specifies the export format. See available choices below.

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (IBM® SPSS® Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

Set the value of *subSet* to one of the following:

SpssClient.SpssExportSubset.SpssSelected	All selected charts
SpssClient.SpssExportSubset.SpssVisible	All visible charts
SpssClient.SpssExportSubset.SpssAll	All charts

Set the value of *format* to one of the following:

SpssClient.ChartExportFormat.bmp	Windows bitmap
SpssClient.ChartExportFormat.emf	Enhanced metafile
SpssClient.ChartExportFormat.eps	Enhanced postscript

SpssClient.ChartExportFormat.jpg	JPG file
SpssClient.ChartExportFormat.png	PNG file
SpssClient.ChartExportFormat.tiff	Tagged image file

ExportDocument Method

Exports items from this output document.

- If the items to be exported include charts, then they are exported in the last selected graphics format. The graph export type can be set from the `SetExportOption` method in the `SpssClient` class.
- Use the SetOutputOptions method to set export options for export to Word, Excel, or PowerPoint.

Syntax

```
SpssOutputDoc.ExportDocument(subSet,fileName,format)
```

Parameters

subSet	Specifies whether all items, all visible items, or all selected items are exported. See available choices below.
fileName	Full path and file name for the file containing the exported items.
format	Specifies the export format. See available choices below.

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (IBM® SPSS® Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

Set the value of *subSet* to one of the following:

SpssClient.SpssExportSubset.SpssSelected	All selected items
SpssClient.SpssExportSubset.SpssVisible	All visible items
SpssClient.SpssExportSubset.SpssAll	All items

Set the value of *format* to one of the following:

SpssClient.DocExportFormat.SpssFormatHtml	Html
SpssClient.DocExportFormat.SpssFormatDoc	Word
SpssClient.DocExportFormat.SpssFormatXls	Excel
SpssClient.DocExportFormat.SpssFormatText	Text
SpssClient.DocExportFormat.SpssFormatPdf	PDF
SpssClient.DocExportFormat.SpssFormatPpt	PowerPoint

GetCurrentItem Method

Returns an `SpssOutputItem` object for the current output item—as indicated by a red arrow next to the item in the outline pane.

Syntax

```
SpssOutputItem=SpssOutputDoc.GetCurrentItem()
```

GetDocumentPath Method

Returns the path and file name of the output file associated with this output document object, or the empty string if the output document is not associated with a file.

Syntax

```
SpssOutputDoc.GetDocumentPath()
```

GetFooterText Method

Returns the footer text for printed pages. The value is returned as plain text.

Syntax

```
SpssOutputDoc.GetFooterText()
```

GetHeaderText Method

Returns the header text for printed pages. The value is returned as plain text.

Syntax

```
SpssOutputDoc.GetHeaderText()
```

GetMenuTable Method

Returns a MenuTableList object containing the list of available menu items for the output document.

Syntax

```
MenuTableList = SpssOutputDoc.GetMenuTable()
```

GetOutputItems Method

Returns a list of items in the output document as an `OutputItemList` object. Each item in the list is an `SpssOutputItem` object.

Syntax

```
OutputItemList=SpssOutputDoc.GetOutputItems()
```

GetOutputOptions Method

Returns the value of the specified export option for this output document, as a string.

Syntax

```
SpssOutputDoc.GetOutputOptions(option)
```

Parameters

The available values for the *option* parameter are (specify the value without quotes):

SpssClient.DocExportOption.ExcelSheetNames. Specifies the name of the sheet to which items will be exported. This option only applies when exporting to Excel.

SpssClient.DocExportOption.ExcelStartingCell. Specifies the starting cell for exporting to Excel. Applies when `SpssClient.DocExportOption.ExcelLocationOptions` is set to "OverwriteAtCellRef".

SpssClient.DocExportOption.ExcelOperationOptions. Specifies whether a new workbook is created, a new worksheet is created, or an existing worksheet is modified. This option only applies when exporting to Excel.

- **"CreateWorkbook".** A new workbook is created. If the specified file exists, it is overwritten.
- **"CreateWorksheet".** A new worksheet is created within the specified workbook. The name of the sheet is given by the setting of `SpssClient.DocExportOption.ExcelSheetNames`. If a worksheet with the specified name already exists, that worksheet is overwritten. If the specified file does not exist, a new file is created with a worksheet with the specified name.
- **"ModifyWorksheet".** Modifies the contents of an existing worksheet. The name of the sheet is given by the setting of `SpssClient.DocExportOption.ExcelSheetNames`. Export of charts, model views, and tree diagrams is not supported with "ModifyWorksheet".

SpssClient.DocExportOption.ExcelLocationOptions. Specifies how items will be added to a worksheet. This option only applies when exporting to Excel.

- **"AddColumns".** Specifies that items will be added after the last column, starting in the first row, without modifying any existing contents.

- **"AddRows".** Specifies that items will be added after the last row, starting in the first column, without modifying any existing contents.
- **"OverwriteAtCellRef".** Specifies that items will be written to the location specified in `SpssClient.DocExportOption.ExcelStartingCell`. Any existing content in the area where the exported items are added will be overwritten.

SpssClient.DocExportOption.WideTablesOptions. Specifies the treatment of pivot tables that are too wide for the document width (the specified page width minus the left and right margins). This option only applies when exporting to Word or PowerPoint.

- **"WT_Wrap".** Specifies that tables are divided into sections that will fit within the defined document width. Row labels are repeated for each section of the table. If the row labels are too wide for the defined document width, the table is exported without wrapping and will appear truncated in the document.
- **"WT_Shrink".** Specifies that font size and column width are reduced so that tables fit within the document width.
- **"WT_Extend".** Specifies that tables that are too wide for the document width will appear truncated. All of the table content, however, is retained so expanding the document width will display additional table content.

The following options apply when exporting to Word or PowerPoint.

SpssClient.DocExportOption.ItemsPageHeight. A character representation of a positive number representing the page height, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsPageWidth. A character representation of a positive number representing the page width, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsTopMargin. A character representation of a positive number representing the top margin, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsBottomMargin. A character representation of a positive number representing the bottom margin, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsRightMargin. A character representation of a positive number representing the right margin, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsLeftMargin. A character representation of a positive number representing the left margin, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsMeasurementUnits. The units for specifying page dimensions and margins: "IExportOptions.MeasurementUnits.Inches", "IExportOptions.MeasurementUnits.Millimeters", "IExportOptions.MeasurementUnits.Centimeters", and "IExportOptions.MeasurementUnits.PrintPoints" (1/72 inch).

GetOutputUI Method

Returns an `SpssOutputUI` object representing the Viewer window associated with the output document, if one exists.

Syntax

```
SpssOutputUI=SpssOutputDoc.GetOutputUI()
```

GetPrintOptions Method

Returns the value of the specified print option, as a string.

Syntax

```
SpssOutputDoc.GetPrintOptions(printOption)
```

Parameters

The available settings for *printOption* are:

SpssClient.PrintOptions.LeftMargin	Left margin
SpssClient.PrintOptions.TopMargin	Top margin
SpssClient.PrintOptions.RightMargin	Right margin
SpssClient.PrintOptions.BottomMargin	Bottom margin
SpssClient.PrintOptions.Orientation	Orientation (portrait or landscape)
SpssClient.PrintOptions.StartingPageNumber	Starting page number
SpssClient.PrintOptions.SpaceBetweenItems	Space between items
SpssClient.PrintOptions.PrintedChartSize	Printed chart size (as is, full page, half page, or quarter page)

- All margin settings and Space Between Items are in units of points (1/72 inch).
- For Orientation, 1 corresponds to Portrait and 2 corresponds to Landscape.
- For Printed Chart Size, 0 corresponds to As Is, 1 to Full Page, 2 to Half Page, and 3 to Quarter Page.

InsertTable Method

Inserts an empty pivot table after the item designated as the current item. The inserted table is populated with default row, column and layer labels, and becomes the current item. *Note*: You can use the SetCurrentItem method to designate an item as the current item.

Syntax

```
index=SpssOutputDoc.InsertTable(heading,nrows,ncolumns,nlayers)
```

Parameters

heading	A string specifying the heading for this table in the outline pane of the Viewer.
nrows	An integer specifying the number of rows in the table. Specifying zero will result in a table with one row.
ncolumns	An integer specifying the number of columns in the table. Specifying zero will result in a table with one column.
nlayers	An integer specifying the number of layers in the table.

Return Value

index	The index of the new table item. The index corresponds to the order of the items in the output document, starting with 0 for the root item.

Example

This example inserts a pivot table with four rows, three columns and no layers. The table is inserted after the root item.

```
import SpssClient
SpssClient.StartClient()
OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()
OutputItem = OutputItems.GetItemAt(0)
OutputItem.SetCurrentItem()
index = OutputDoc.InsertTable("Sample table",4,3,0)
```

IsDesignatedOutputDoc Method

Indicates if this output document is the designated one. The result is Boolean—*True* if the output document is the designated one, *False* otherwise.

- If you have more than one open output document, output is routed to the designated one.

Syntax

```
SpssOutputDoc.IsDesignatedOutputDoc()
```

IsEqualTo Method

Indicates if this output document object is the same object as a specified output document object. The result is Boolean—*True* if the two objects are identical, *False* otherwise.

Syntax

```
SpssOutputDoc.IsEqualTo(outputDoc)
```

Parameters

outputDoc	An `SpssOutputDoc` object

IsModified Method

Indicates whether the output document has been modified. The result is Boolean—*True* if the output document has been modified, *False* otherwise.

Syntax

```
SpssOutputDoc.IsModified()
```

IsPromptToSave Method

Indicates if the 'prompt to save' flag is set for this output document object. The result is Boolean—*True* if the 'prompt to save' flag has been set, *False* otherwise.

Syntax

```
SpssOutputDoc.IsPromptToSave()
```

Paste Method

Pastes the clipboard content after the current item.

Syntax

```
SpssOutputDoc.Paste()
```

PasteBefore Method

Pastes the clipboard content before the current item.

Syntax

```
SpssOutputDoc.PasteBefore()
```

PrintRange Method

Sets the print range for the output document.

Syntax

```
SpssOutputDoc.PrintRange(range)
```

Parameters

range	An integer specifying the print range: 0 for all expanded output, 1 for all selected items.

You can specify print options using the SetPrintOptions method. You print an output document using the PrintOutputDoc method from the `SpssOutputUI` class.

Promote Method

Promotes selected output items up one level within the hierarchy of the output tree.

- You cannot promote an item to the root level and you cannot promote an item if there are unselected items at the same level immediately following it in the output tree.
- If the item has children, the children are also promoted.

Syntax

```
SpssOutputDoc.Promote()
```

You can demote items down one level with the Demote method.

SaveAs Method

Saves the output document to the specified file.

Syntax

```
SpssOutputDoc.SaveAs(fileName,password=None)
```

Parameters

fileName	The path and file name of the output file, as a string.
password	An optional string specifying the password that will be required to open the file. Only applies if you want to encrypt the output file. Passwords are limited to 10 characters and are case-sensitive. All spaces, including leading and trailing spaces, are retained.

Creating strong passwords

- Use eight or more characters.
- Include numbers, symbols and even punctuation in your password.
- Avoid sequences of numbers or characters, such as `"123"` and `"abc"`, and avoid repetition, such as `"111aaa"`.
- Do not create passwords that use personal information such as birthdays or nicknames.
- Periodically change the password.

Warning: Passwords cannot be recovered if they are lost. If the password is lost the file cannot be opened.

Note: Encrypted files cannot be opened in versions of IBM® SPSS® Statistics prior to version 21.

SelectAll Method

Selects all items in the output document.

Syntax

```
SpssOutputDoc.SelectAll()
```

SelectAllCharts Method

Selects all chart items in the output document. This includes standard charts, graphboard charts, and R graphics.

Syntax

```
SpssOutputDoc.SelectAllCharts()
```

SelectAllLogs Method

Selects all log items in the output document.

Syntax

```
SpssOutputDoc.SelectAllLogs()
```

SelectAllModels Method

Selects all Model Viewer items in the output document.

Syntax

```
SpssOutputDoc.SelectAllModels()
```

SelectAllNotes Method

Selects all notes items in the output document.

Syntax

```
SpssOutputDoc.SelectAllNotes()
```

SelectAllNotesEx Method

Note: This method is deprecated for release 20 and higher. Please use the SelectAllNotes Method instead.

Selects all notes items in the output document.

Syntax

```
SpssOutputDoc.SelectAllNotesEx()
```

SelectAllOther Method

Selects all non-IBM® SPSS® Statistics items in the output document.

Syntax

```
SpssOutputDoc.SelectAllOther()
```

SelectAllTables Method

Selects all pivot tables in the output document.

Syntax

```
SpssOutputDoc.SelectAllTables()
```

SelectAllTablesEx Method

Note: This method is deprecated for release 20 and higher. Please use the SelectAllTables Method instead.

Selects all pivot tables in the output document.

Syntax

```
SpssOutputDoc.SelectAllTablesEx()
```

SelectAllText Method

Selects all text items in the output document.

Syntax

```
SpssOutputDoc.SelectAllText()
```

SelectAllTitles Method

Selects all title items in the output document.

Syntax

```
SpssOutputDoc.SelectAllTitles()
```

SelectAllWarnings Method

Selects all warnings in the output document.

Syntax

```
SpssOutputDoc.SelectAllWarnings()
```

SelectAllWarningsEx Method

Note: This method is deprecated for release 20 and higher. Please use the SelectAllWarnings Method instead.

Selects all warnings in the output document.

Syntax

```
SpssOutputDoc.SelectAllWarningsEx()
```

SelectLastOutput Method

Selects all items generated by the last executed procedure.

Syntax

```
SpssOutputDoc.SelectLastOutput()
```

SetAsDesignatedOutputDoc Method

Sets this output document as the designated output document.

- If you have more than one open output document, output is routed to the designated one.

Syntax

```
SpssOutputDoc.SetAsDesignatedOutputDoc()
```

SetFooterText Method

Sets the footer text for printed pages. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences.

Syntax

```
SpssOutputDoc.SetFooterText(text)
```

SetHeaderText Method

Sets the header text for printed pages. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences.

Syntax

```
SpssOutputDoc.SetHeaderText(text)
```

SetModified Method

Sets the modified status of the output document.

Syntax

```
SpssOutputDoc.SetModified(modified)
```

Parameters

modified	True to set the status to modified, False otherwise.

SetOutputOptions Method

Sets export options for this output document. These options apply when exporting with the `ExportDocument` method from the `SpssOutputDoc` class as well as the `ExportToDocument` method from the `SpssOutputItem` class.

Syntax

```
SpssOutputDoc.SetOutputOptions(option,setting)
```

Parameters

The available values for the *option* parameter as well as the allowed values of the associated *setting* are (specify the name of the option without quotes):

SpssClient.DocExportOption.ExcelSheetNames. The setting is a string specifying the name of the sheet to which items will be exported. Sheet names cannot exceed 31 characters and cannot contain forward or back slashes, square brackets, question marks, or asterisks. If the specified worksheet doesn't exist in the Excel file, a new worksheet with that name will be created. This option only applies when exporting to Excel. The default worksheet is "Sheet1".

SpssClient.DocExportOption.ExcelStartingCell. The setting is a string specifying the starting cell, as in "B3". Applies when `SpssClient.DocExportOption.ExcelLocationOptions` is set to "OverwriteAtCellRef". Only applies when exporting to Excel. The default starting cell is A1.

SpssClient.DocExportOption.ExcelOperationOptions. The setting is a string specifying whether a new workbook is created, a new worksheet is created, or an existing worksheet is modified. This option only applies when exporting to Excel.

- **"CreateWorkbook".** A new workbook is created. This is the default. If the specified file exists, it is overwritten.
- **"CreateWorksheet".** A new worksheet is created within the specified workbook. The name of the sheet is given by the setting of `SpssClient.DocExportOption.ExcelSheetNames`. If a worksheet with the specified name already exists, that worksheet is overwritten. If the specified file does not exist, a new file is created with a worksheet with the specified name.
- **"ModifyWorksheet".** Modifies the contents of an existing worksheet. The name of the sheet is given by the setting of `SpssClient.DocExportOption.ExcelSheetNames`. Use `SpssClient.DocExportOption.ExcelLocationOptions` and `SpssClient.DocExportOption.ExcelStartingCell` to specify location in the sheet. Export of charts, model views, and tree diagrams is not supported with "ModifyWorksheet".

SpssClient.DocExportOption.ExcelLocationOptions. A string specifying how items will be added to a worksheet. This option only applies when exporting to Excel.

- **"AddColumns".** Specifies that items will be added after the last column, starting in the first row, without modifying any existing contents. This is the default.
- **"AddRows".** Specifies that items will be added after the last row, starting in the first column, without modifying any existing contents.
- **"OverwriteAtCellRef".** Specifies that items will be written to the location specified in `SpssClient.DocExportOption.ExcelStartingCell`. Any existing content in the area where the exported items are added will be overwritten.

SpssClient.DocExportOption.WideTablesOptions. A string specifying the treatment of pivot tables that are too wide for the document width (the specified page width minus the left and right margins). This option only applies when exporting to Word or PowerPoint.

- **"WT_Wrap".** Specifies that tables are divided into sections that will fit within the defined document width. This is the default. Row labels are repeated for each section of the table. If the row labels are too wide for the defined document width, the table is exported without wrapping and will appear truncated in the document.

- **"WT_Shrink".** Specifies that font size and column width are reduced so that tables fit within the document width.
- **"WT_Extend".** Specifies that tables that are too wide for the document width will appear truncated. All of the table content, however, is retained so expanding the document width will display additional table content.

The following options apply when exporting to Word or PowerPoint.

SpssClient.DocExportOption.ItemsPageHeight. A character representation of a positive number representing the page height, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsPageWidth. A character representation of a positive number representing the page width, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsTopMargin. A character representation of a positive number representing the top margin, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsBottomMargin. A character representation of a positive number representing the bottom margin, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsRightMargin. A character representation of a positive number representing the right margin, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsLeftMargin. A character representation of a positive number representing the left margin, in units specified by `SpssClient.DocExportOption.ItemsMeasurementUnits`.

SpssClient.DocExportOption.ItemsMeasurementUnits. A string specifying the units for page dimensions and margins: "IExportOptions.MeasurementUnits.Inches", "IExportOptions.MeasurementUnits.Millimeters", "IExportOptions.MeasurementUnits.Centimeters", and "IExportOptions.MeasurementUnits.PrintPoints" (1/72 inch). The default is "IExportOptions.MeasurementUnits.Inches".

Example

This example assumes that `OutputDoc` is an `SpssOutputDoc` object and exports all pivot tables to an existing Excel worksheet beginning at a specified location.

```
OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputDoc.SetOutputOptions(SpssClient.DocExportOption.ExcelSheetNames,"mysheet")
OutputDoc.SetOutputOptions(SpssClient.DocExportOption.ExcelStartingCell,"B6")
OutputDoc.SetOutputOptions(SpssClient.DocExportOption.ExcelLocationOptions,
                           "OverwriteAtCellRef")
OutputDoc.SetOutputOptions(SpssClient.DocExportOption.ExcelOperationOptions,
                           "ModifyWorksheet")
OutputItems = OutputDoc.GetOutputItems()
for index in range(OutputItems.Size()):
    OutputItem = OutputItems.GetItemAt(index)
    if OutputItem.GetType() == SpssClient.OutputItemType.PIVOT:
        OutputItem.SetSelected(True)
```

```
OutputDoc.ExportDocument(SpssClient.SpssExportSubset.SpssSelected,
                         "/output/myexport.xls",
                         SpssClient.DocExportFormat.SpssFormatXls)
```

SetPrintOptions Method

Sets the value of the specified print option.

Syntax

```
SpssOutputDoc.SetPrintOptions(printOption,value)
```

Parameters

The available settings for *printOption* are:

SpssClient.PrintOptions.LeftMargin	Left margin
SpssClient.PrintOptions.TopMargin	Top margin
SpssClient.PrintOptions.RightMargin	Right margin
SpssClient.PrintOptions.BottomMargin	Bottom margin
SpssClient.PrintOptions.Orientation	Orientation (portrait or landscape)
SpssClient.PrintOptions.StartingPageNumber	Starting page number
SpssClient.PrintOptions.SpaceBetweenItems	Space between items
SpssClient.PrintOptions.PrintedChartSize	Printed chart size (as is, full page, half page, or quarter page)

The parameter *value* is a string. Following are the available settings:

- All margin settings and Space Between Items are in units of points (1/72 inch).
- For Orientation, 1 corresponds to Portrait and 2 corresponds to Landscape.
- For Printed Chart Size, 0 corresponds to As Is, 1 to Full Page, 2 to Half Page, and 3 to Quarter Page.

You can specify the print range using the PrintRange method. You print an output document using the PrintOutputDoc method from the `SpssOutputUI` class.

SetPromptToSave Method

Sets the ‘prompt to save’ flag for this output document object.

Syntax

```
SpssOutputDoc.SetPromptToSave(promptToSave)
```

Parameters

promptToSave	True to set the prompt to save flag, False otherwise.

OutputDocsList Class

The `OutputDocsList` class provides access to the list of open output documents. You obtain an `OutputDocsList` object from the GetOutputDocuments method of the `SpssClient` class.

An `OutputDocsList` object is not an iterable Python object. In order to iterate over the items in the list, use a `for` loop, as in:

```
for index in range(OutputDocsList.Size()):
```

For an example that uses the `OutputDocsList` class, see the examples for the SpssOutputDoc class.

GetItemAt Method

Returns an `SpssOutputDoc` object representing the output document with the specified index. The index corresponds to the order in which the output documents were opened, with the first opened document having an index of 0.

Syntax

```
SpssOutputDoc=OutputDocsList.GetItemAt(index)
```

Size Method

Returns the number of open output documents.

Syntax

```
OutputDocsList.Size()
```

OutputItemList Class

The `OutputItemList` class provides access to the list of items in an open output document. You obtain an `OutputItemList` object from the GetOutputItems method of an `SpssOutputDoc` object.

An `OutputItemList` object is not an iterable Python object. In order to iterate over the items in the list, use a `for` loop, as in:

```
for index in range(OutputItemList.Size()):
```

For an example that uses the `OutputItemList` class, see the example for the SpssOutputItem class.

GetItemAt Method

Returns an `SpssOutputItem` object corresponding to the output item with the specified index. The index corresponds to the order of the items in the output document, starting with 0 for the root item.

Syntax

```
SpssOutputItem=OutputItemList.GetItemAt(index)
```

Size Method

Returns the number of items in the associated output document.

Syntax

```
OutputItemList.Size()
```

SpssOutputUI Class

The `SpssOutputUI` class represents the Viewer window associated with an open output document. You obtain an `SpssOutputUI` object from the GetOutputUI method of an `SpssOutputDoc` object.

Example: Get the SpssOutputUI Object Associated with the Designated Output Document

```
import SpssClient
SpssClient.StartClient()
DesignatedOutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputUI = DesignatedOutputDoc.GetOutputUI()
```

- The variable *OutputUI* is an `SpssOutputUI` object for the Viewer window associated with the designated output document.

GetHeight Method

Returns the height of the associated Viewer window in units of pixels.

Syntax

```
SpssOutputUI.GetHeight()
```

GetLeft Method

Returns the horizontal screen position of the associated Viewer window's upper left corner. The result is in units of pixels.

Syntax

```
SpssOutputUI.GetLeft()
```

GetSplitterPosition Method

Returns the position of the splitter bar in the associated Viewer window. The result is in units of pixels. The splitter bar determines how large the outline area is.

Syntax

```
SpssOutputUI.GetSplitterPosition()
```

GetTitleText Method

Returns the title bar text of the associated Viewer window.

Syntax

```
SpssOutputUI.GetTitleText()
```

GetTop Method

Returns the vertical screen position of the associated Viewer window's upper left corner. The result is in units of pixels.

Syntax

```
SpssOutputUI.GetTop()
```

GetVisible Method

Indicates if the associated Viewer window is visible. The result is Boolean—*True* if the Viewer window is visible, *False* otherwise.

Syntax

```
SpssOutputUI.GetVisible()
```

GetWidth Method

Returns the width of the associated Viewer window in units of pixels.

Syntax

```
SpssOutputUI.GetWidth()
```

GetWindowState Method

Returns the state of the associated Viewer window.

Syntax

```
SpssOutputUI.GetWindowState()
```

Returns

SpssClient.SpssWindowStates.SpssMinimized	Minimized
SpssClient.SpssWindowStates.SpssMaximized	Maximized
SpssClient.SpssWindowStates.SpssNormal	Normal

InvokeDialog Method

Invokes a dialog and returns the syntax generated from that dialog, if any.

Syntax

```
syntax = SpssOutputUI.InvokeDialog(menuItemPath,desktopParent)
```

Parameters

menuItemPath	Menu or menu item with path of the dialog to invoke. See below for detailed description.
desktopParent	True specifies that the dialog is parented off the desktop. False specifies that the dialog is parented off an IBM® SPSS® Statistics window.

Note: For release 19.0.0.2 and higher, the *bSync* parameter (available in previous releases) is deprecated. The `InvokeDialog` method always runs synchronously, meaning that the scripting process waits until the dialog has been dismissed. Older scripts containing the *bSync* parameter will continue to function in release 19.0.0.2 and higher, but the value of the parameter will be ignored.

Specifying The Menu Item Path

The value of the *menuItemPath* parameter is a string specifying the menu path to the desired dialog—for example “analyze>survival>life tables”. The greater-than sign (>) is used to separate a menu, its submenus and the menu item. The menu string must correspond exactly to the text on the menus, submenus, and menu items, and is language specific.

PrintOutputDoc Method

Prints the document.

Syntax

```
SpssOutputUI.PrintOutputDoc()
```

You can specify the print range using the PrintRange method. You can specify print options using the SetPrintOptions method.

SetHeight Method

Sets the height of the associated Viewer window.

Syntax

```
SpssOutputUI.SetHeight(height)
```

Parameters

height	An integer representing the height in pixels.

SetLeft Method

Sets the horizontal screen position of the associated Viewer window's upper left corner.

Syntax

```
SpssOutputUI.SetLeft(leftPosition)
```

Parameters

leftPosition	An integer representing the position in pixels.

SetSplitterPosition Method

Sets the position of the splitter bar in the associated Viewer window. The splitter bar determines how large the outline area is.

Syntax

```
SpssOutputUI.SetSplitterPosition(position)
```

Parameters

position	An integer representing the position in pixels.

SetTop Method

Sets the vertical screen position of the associated Viewer window's upper left corner.

Syntax

```
SpssOutputUI.SetTop(topPosition)
```

Parameters

topPosition	An integer representing the position in pixels.

SetVisible Method

Sets the visibility of the associated Viewer window.

Syntax

```
SpssOutputUI.SetVisible(isVisible)
```

Parameters

isVisible	True to set the Viewer window as visible, False otherwise.

SetWidth Method

Sets the width of the associated Viewer window.

Syntax

```
SpssOutputUI.SetWidth(width)
```

Parameters

width	An integer representing the width in pixels.

SetWindowState Method

Sets the state of the associated Viewer window.

Syntax

```
SpssOutputUI.SetWindowState(newState)
```

Parameters

Set the value of *newState* to one of the following:

SpssClient.SpssWindowStates.SpssMinimized	Minimized
SpssClient.SpssWindowStates.SpssMaximized	Maximized
SpssClient.SpssWindowStates.SpssNormal	Normal

Chapter
5

Syntax Documents and Syntax Editor Windows

SpssSyntaxDoc Class

The `SpssSyntaxDoc` class represents an open syntax document.

Example: Obtaining the Designated Syntax Document

```
import SpssClient
SpssClient.StartClient()
DesignatedSyntaxDoc = SpssClient.GetDesignatedSyntaxDoc()
```

- The variable *DesignatedSyntaxDoc* is an `SpssSyntaxDoc` object for the designated syntax document.

Example: Obtaining the First Opened Syntax Document

```
import SpssClient
SpssClient.StartClient()
SyntaxDocsList = SpssClient.GetSyntaxDocuments()
FirstSyntaxDoc = SyntaxDocsList.GetItemAt(0)
```

- `SpssClient.GetSyntaxDocuments()` returns a `SyntaxDocsList` object, which provides access to all open syntax documents.
- The `GetItemAt` method from the `SyntaxDocsList` class is used to get the syntax document with index 0 (the first opened syntax document) from the list of open syntax documents. The variable *FirstSyntaxDoc* is an `SpssSyntaxDoc` object for this syntax document.

Example: Create a New Syntax Document and Set it as the Designated One

```
import SpssClient
SpssClient.StartClient()
NewSyntaxDoc = SpssClient.NewSyntaxDoc()
NewSyntaxDoc.SetAsDesignatedSyntaxDoc()
```

- The variable *NewSyntaxDoc* is an `SpssSyntaxDoc` object for the new syntax document.

CloseDocument Method

Closes the syntax document.

Syntax

```
SpssSyntaxDoc.CloseDocument()
```

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GetDocumentPath Method

Returns the path and file name of the syntax file associated with this syntax document object, or the empty string if the syntax document is not associated with a file.

Syntax

```
SpssSyntaxDoc.GetDocumentPath()
```

GetMenuTable Method

Returns a MenuTableList object containing the list of available menu items for the syntax document.

Syntax

```
MenuTableList = SpssSyntaxDoc.GetMenuTable()
```

GetSyntax Method

Returns the syntax contained in the associated syntax document, as a unicode string.

Syntax

```
SpssSyntaxDoc.GetSyntax()
```

GetSyntaxUI Method

Returns an `SpssSyntaxUI` object representing the syntax window associated with the syntax document.

Syntax

```
SpssSyntaxUI=SpssSyntaxDoc.GetSyntaxUI()
```

IsDesignatedSyntaxDoc Method

Indicates if this syntax document is the designated one. The result is Boolean—*True* if the syntax document is the designated one, *False* otherwise.

- If you have more than one open syntax document, command syntax is pasted into the designated one.

Syntax

```
SpssSyntaxDoc.IsDesignatedSyntaxDoc()
```

IsEqualTo Method

Indicates if this syntax document object is the same object as a specified syntax document object. The result is Boolean—*True* if the two objects are identical, *False* otherwise.

Syntax

```
SpssSyntaxDoc.IsEqualTo(syntaxDoc)
```

Parameters

syntaxDoc	An `SpssSyntaxDoc` object

IsModified Method

Indicates whether the syntax document has been modified. The result is Boolean—*True* if the syntax document has been modified, *False* otherwise.

Syntax

```
SpssSyntaxDoc.IsModified()
```

IsPromptToSave Method

Indicates if the 'prompt to save' flag is set for this syntax document object. The result is Boolean—*True* if the 'prompt to save' flag has been set, *False* otherwise.

Syntax

```
SpssSyntaxDoc.IsPromptToSave()
```

RunSyntax Method

Runs all of the syntax in the associated syntax document.

- The submitted commands are executed synchronously with any other submitted command syntax.
- This method cannot be called within a script that is run from the `SCRIPT` command. It is also not available when called from a Python program in distributed mode (Python programs make use of the interface exposed by the Python `spss` module).

Syntax

```
SpssSyntaxDoc.RunSyntax()
```

SaveAs Method

Saves the syntax document to the specified file.

Syntax

```
SpssSyntaxDoc.SaveAs(fileName)
```

SetAsDesignatedSyntaxDoc Method

Sets this syntax document as the designated syntax document.

- If you have more than one open syntax document, command syntax is pasted into the designated one.

Syntax

```
SpssSyntaxDoc.SetAsDesignatedSyntaxDoc()
```

SetModified Method

Sets the modified status of the syntax document.

Syntax

```
SpssSyntaxDoc.SetModified(modified)
```

Parameters

modified	True to set the status to modified, False otherwise.

SetPromptToSave Method

Sets the 'prompt to save' flag for this syntax document object.

Syntax

```
SpssSyntaxDoc.SetPromptToSave(promptToSave)
```

Parameters

promptToSave	True to set the prompt to save flag, False otherwise.

SetSyntax Method

Specifies the content of the associated syntax document and replaces any existing content.

Syntax

```
SpssSyntaxDoc.SetSyntax(syntax)
```

Parameters

syntax	A string specifying the syntax. You can include line breaks using the escape sequence "\n", and you can use a triple-quoted string as shown in the example.

Example

```
SpssSyntaxDoc.SetSyntax(r"""DESCRIPTIVES
  VARIABLES=salary salbegin jobtime prevexp
  /STATISTICS=MEAN STDDEV MIN MAX.""")
```

- Using a triple-quoted string—as in this example—allows you to specify a block of syntax commands on multiple lines. You can use either triple single quotes or triple double quotes, but you must use the same type (single or double) on both sides of the specified string.
- Notice that the triple-quoted expression is prefixed with the letter `r`. The `r` prefix to a string specifies Python's raw mode. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

SyntaxDocsList Class

The `SyntaxDocsList` class provides access to the list of open syntax documents. You obtain a `SyntaxDocsList` object from the GetSyntaxDocuments method of the `SpssClient` class.

A `SyntaxDocsList` object is not an iterable Python object. In order to iterate over the items in the list, use a `for` loop, as in:

```
for index in range(SyntaxDocsList.Size()):
```

For an example that uses the `SyntaxDocsList` class, see the examples for the SpssSyntaxDoc class.

GetItemAt Method

Returns an `SpssSyntaxDoc` object representing the syntax document with the specified index. The index corresponds to the order in which the syntax documents were opened, with the first opened document having an index of 0.

Syntax

```
SpssSyntaxDoc=SyntaxDocsList.GetItemAt(index)
```

Size Method

Returns the number of open syntax documents.

Syntax

```
SyntaxDocsList.Size()
```

SpssSyntaxUI Class

The SpssSyntaxUI class represents the Syntax Editor window associated with an open syntax document. You obtain an SpssSyntaxUI object from the GetSyntaxUI method of an SpssSyntaxDoc object.

Example: Get the SpssSyntaxUI Object Associated with the Designated Syntax Document

```
import SpssClient
SpssClient.StartClient()
DesignatedSyntaxDoc = SpssClient.GetDesignatedSyntaxDoc()
SyntaxUI = DesignatedSyntaxDoc.GetSyntaxUI()
```

- The variable *SyntaxUI* is an SpssSyntaxUI object for the Syntax Editor window associated with the designated syntax document.

GetHeight Method

Returns the height of the associated Syntax Editor window in units of pixels.

Syntax

```
SpssSyntaxUI.GetHeight()
```

GetLeft Method

Returns the horizontal screen position of the associated Syntax Editor window's upper left corner. The result is in units of pixels.

Syntax

```
SpssSyntaxUI.GetLeft()
```

GetTitleText Method

Returns the title bar text of the associated Syntax Editor window.

Syntax

```
SpssSyntaxUI.GetTitleText()
```

GetTop Method

Returns the vertical screen position of the associated Syntax Editor window's upper left corner. The result is in units of pixels.

Syntax

```
SpssSyntaxUI.GetTop()
```

GetVisible Method

Indicates if the associated Syntax Editor window is visible. The result is Boolean—*True* if the Syntax Editor window is visible, *False* otherwise.

Syntax

```
SpssSyntaxUI.GetVisible()
```

GetWidth Method

Returns the width of the associated Syntax Editor window in units of pixels.

Syntax

```
SpssSyntaxUI.GetWidth()
```

GetWindowState Method

Returns the state of the associated Syntax Editor window.

Syntax

```
SpssSyntaxUI.GetWindowState()
```

Returns

SpssClient.SpssWindowStates.SpssMinimized	Minimized
SpssClient.SpssWindowStates.SpssMaximized	Maximized
SpssClient.SpssWindowStates.SpssNormal	Normal

InvokeDialog Method

Invokes a dialog and returns the syntax generated from that dialog, if any.

Syntax

```
syntax = SpssSyntaxUI.InvokeDialog(menuItemPath,desktopParent)
```

Parameters

menuItemPath	Menu or menu item with path of the dialog to invoke. See below for detailed description.
desktopParent	True specifies that the dialog is parented off the desktop. False specifies that the dialog is parented off an IBM® SPSS® Statistics window.

Note: For release 19.0.0.2 and higher, the *bSync* parameter (available in previous releases) is deprecated. The `InvokeDialog` method always runs synchronously, meaning that the scripting process waits until the dialog has been dismissed. Older scripts containing the *bSync* parameter will continue to function in release 19.0.0.2 and higher, but the value of the parameter will be ignored.

Specifying The Menu Item Path

The value of the *menuItemPath* parameter is a string specifying the menu path to the desired dialog—for example "analyze>survival>life tables". The greater-than sign (>) is used to separate a menu, its submenus and the menu item. The menu string must correspond exactly to the text on the menus, submenus, and menu items, and is language specific.

PrintSyntaxDoc Method

Prints the document.

Syntax

```
SpssSyntaxUI.PrintSyntaxDoc()
```

SetHeight Method

Sets the height of the associated Syntax Editor window.

Syntax

```
SpssSyntaxUI.SetHeight(height)
```

Parameters

height	An integer representing the height in pixels.

SetLeft Method

Sets the horizontal screen position of the associated Syntax Editor window's upper left corner.

Syntax

```
SpssSyntaxUI.SetLeft(leftPosition)
```

Parameters

leftPosition	An integer representing the position in pixels.

SetTop Method

Sets the vertical screen position of the associated Syntax Editor window's upper left corner.

Syntax

```
SpssSyntaxUI.SetTop(topPosition)
```

Parameters

topPosition	An integer representing the position in pixels.

SetVisible Method

Sets the visibility of the associated Syntax Editor window.

Syntax

```
SpssSyntaxUI.SetVisible(isVisible)
```

Parameters

isVisible	True to set the Syntax Editor window as visible, False otherwise.

SetWidth Method

Sets the width of the associated Syntax Editor window.

Syntax

```
SpssSyntaxUI.SetWidth(width)
```

Parameters

width	An integer representing the width in pixels.

SetWindowState Method

Set the state of the associated Syntax Editor window.

Syntax

```
SpssSyntaxUI.SetWindowState(newState)
```

Parameters

Set the value of *newState* to one of the following:

SpssClient.SpssWindowStates.SpssMinimized	Minimized
SpssClient.SpssWindowStates.SpssMaximized	Maximized
SpssClient.SpssWindowStates.SpssNormal	Normal

Chapter
6

Output Items

SpssOutputItem Class

The SpssOutputItem class represents any item in an output document. You get an SpssOutputItem object from an OutputItemList object.

Example: Exporting the First Pivot Table to HTML

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItemList = OutputDoc.GetOutputItems()

for index in range(OutputItemList.Size()):
   OutputItem = OutputItemList.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.PIVOT:
        OutputItem.ExportToDocument("/myfiles/mypivot",
                      SpssClient.DocExportFormat.SpssFormatHtml)
        break
SpssClient.StopClient()
```

- SpssClient.GetDesignatedOutputDoc() gets an SpssOutputDoc object for the designated output document. In this example, the variable *OutputDoc* is an SpssOutputDoc object.
- The GetOutputItems method of an SpssOutputDoc object returns an OutputItemList object. In this example, the variable *OutputItemList* is an OutputItemList object.
- The for loop iterates through all of the objects in the OutputItemList object—one object for each item in the output document. On each iteration of the loop, the variable *OutputItem* is an SpssOutputItem object.
- The GetType method from the SpssOutputItem class returns the type of the output item. Pivot tables have an output item type of SpssClient.OutputItemType.PIVOT.
- You export the pivot table using the ExportToDocument method from the SpssOutputItem class.
- The break statement terminates the loop if a pivot table is found.

ConvertToStdTable Method

This method is obsolete for release 20 and higher. *Note*: Lightweight tables created in IBM® SPSS® Statistics release 19 automatically have full support for pivoting and editing in release 20 or later.

ExportToDocument Method

Exports this output item in the specified document format.

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- This method cannot be used for exporting chart items. To export a chart item, use the `ExportToImage` method.
- See SetOutputOptions for options available when exporting to Word, Excel, or PowerPoint.

Syntax

```
SpssOutputItem.ExportToDocument(fileName,format)
```

Parameters

Set the value of *format* to one of the following:

SpssClient.DocExportFormat.SpssFormatHtml	Html
SpssClient.DocExportFormat.SpssFormatDoc	Word
SpssClient.DocExportFormat.SpssFormatXls	Excel
SpssClient.DocExportFormat.SpssFormatText	Text
SpssClient.DocExportFormat.SpssFormatPdf	PDF
SpssClient.DocExportFormat.SpssFormatPpt	PowerPoint

ExportToImage Method

Exports this output item in the specified image format.

- This method can only be used for exporting charts, trees, and Model Viewer items. To export other item types, use the `ExportToDocument` method.
- When used for a Model Viewer item, the method exports the view displayed in the Viewer. You can export all views using the ExportAllViews Method.

Syntax

```
SpssOutputItem.ExportToImage(fileName,format)
```

Parameters

Set the value of *format* to one of the following:

SpssClient.ChartExportFormat.bmp	Windows bitmap
SpssClient.ChartExportFormat.emf	Enhanced metafile
SpssClient.ChartExportFormat.eps	Enhanced postscript
SpssClient.ChartExportFormat.jpg	JPG file
SpssClient.ChartExportFormat.png	PNG file
SpssClient.ChartExportFormat.tiff	Tagged image file

GetAlignment Method

Returns the alignment for this output item.

Syntax

```
SpssOutputItem.GetAlignment()
```

Returns

SpssClient.OutputItemAlignment.Left	Left
SpssClient.OutputItemAlignment.Center	Center
SpssClient.OutputItemAlignment.Right	Right

When testing for a particular alignment type with the return value from `GetAlignment`, you can also use the following integer type codes: 0 (Left), 1 (Center), 2 (Right). For example:

```
if SpssOutputItem.GetAlignment() == 0:
```

GetDescription Method

Returns the name of this output item as it appears in the outline pane of the Viewer.

Syntax

```
SpssOutputItem.GetDescription()
```

GetHeight Method

Returns the height of this output item in units of points (1/72 inch).

- This method is not available for header items or root items.

Syntax

```
SpssOutputItem.GetHeight()
```

GetPageBreak Method

Indicates whether a page break is set before this item. The result is Boolean—*True* if the page break is set, *False* otherwise.

Syntax

```
SpssOutputItem.GetPageBreak()
```

GetParentItem Method

Returns an `SpssOutputItem` object representing the parent item of this output item.

Syntax

```
SpssOutputItem.GetParentItem()
```

GetProcedureName Method

Returns the name of the IBM® SPSS® Statistics procedure that generated this output item. The value is the OMS command identifier associated with the procedure.

Syntax

```
SpssOutputItem.GetProcedureName()
```

GetSpecificType Method

Returns an object of a specific output type, such as a pivot table or header item. You will need to call this method before using methods specific to that type of output item. For example, before you can use the methods available for a pivot table, you must call `GetSpecificType` on the associated `SpssOutputItem` object. The set of output types is listed in the description of the GetType method.

Syntax

```
object=SpssOutputItem.GetSpecificType()
```

For an example of using the `GetSpecificType` method, see SpssPivotTable Class.

GetSubType Method

Returns the OMS (Output Management System) sub type identifier, if any, of this output item.

Syntax

```
SpssOutputItem.GetSubType()
```

GetTreeLevel Method

Returns the level of this item within the hierarchy of the output tree. For instance, the root item is at level 0, and header items beneath the root are at level 1.

Syntax

```
SpssOutputItem.GetTreeLevel()
```

GetType Method

Returns the type associated with this output item.

Syntax

```
SpssOutputItem.GetType()
```

Returns

Type	Type Code
SpssClient.OutputItemType.UNKNOWN	0
SpssClient.OutputItemType.CHART	1
SpssClient.OutputItemType.HEAD	2
SpssClient.OutputItemType.LOG	3
SpssClient.OutputItemType.NOTE	4
SpssClient.OutputItemType.PIVOT	5
SpssClient.OutputItemType.ROOT	6
SpssClient.OutputItemType.TEXT	7
SpssClient.OutputItemType.WARNING	8
SpssClient.OutputItemType.TITLE	9
SpssClient.OutputItemType.PAGETITLE	11
SpssClient.OutputItemType.TREEMODEL	13
SpssClient.OutputItemType.GENERIC	14
SpssClient.OutputItemType.MODEL	15
SpssClient.OutputItemType.LIGHTNOTE	18
SpssClient.OutputItemType.LIGHTPIVOT	19
SpssClient.OutputItemType.LIGHTWARNING	20

When testing for a particular output type with the return value from `GetType`, you can use the integer type code or the textual specification of the type. For an example of using the `GetType` method, see SpssPivotTable Class.

Notes

- Standard charts, graphboard charts, and R graphics all have the type `SpssClient.OutputItemType.CHART`. To distinguish between these chart types, use the SPSSSubtype method on the associated `SpssChartItem` object.
- Objects of type *SpssClient.OutputItemType.ROOT* (the root object in an output document) or *SpssClient.OutputItemType.HEAD* are `SpssHeaderItem` objects.
- Objects of type *SpssClient.OutputItemType.TREEMODEL* are `SpssChartItem` objects.
- The object types *SpssClient.OutputItemType.LIGHTNOTE*, *SpssClient.OutputItemType.LIGHTPIVOT*, and *SpssClient.OutputItemType.LIGHTWARNING* are obsolete for release 20 and higher. Lightweight Notes items, lightweight Pivot Table items, and lightweight Warnings items created in release 19 will have the output types *SpssClient.OutputItemType.NOTE*, *SpssClient.OutputItemType.PIVOT* and *SpssClient.OutputItemType.WARNING* respectively when accessed in release 20 or higher.

GetTypeString Method

Returns the type string of this output item. The returned value is not translated.

Syntax

```
SpssOutputItem.GetTypeString()
```

Returns

Chart
Log
Notes
Table
Text
Warning
Title
PageTitle
TreeDiagram
Model

Notes

- Standard charts, graphboard charts, and R graphics all have the type string 'Chart'. To distinguish between these chart types, use the SPSSSubtype method on the associated `SpssChartItem` object.
- Lightweight Notes items, lightweight Pivot Table items, and lightweight Warnings items created in release 19 will have the type strings *Notes*, *Table*, and *Warning* respectively when accessed in release 20 or higher.

GetWidth Method

Returns the width of this output item in units of points (1/72 inch).

- This method is not available for header items or root items.

Syntax

```
SpssOutputItem.GetWidth()
```

GetXML Method

Returns the XML representation for an `SpssChartItem` or `SpssModelItem`, as a Unicode string.

Syntax

```
SpssOutputItem.GetXML()
```

You can set the XML for a chart item using the SetXML method from the `SpssChartItem` class. You can set the XML for a Model Viewer item using the SetXML method from the `SpssModelItem` class.

IsCurrentItem Method

Indicates if this output item is the current item—as indicated by a red arrow next to the item in the outline pane. The result is Boolean—*True* if the item is the current item, *False* otherwise.

Syntax

```
SpssOutputItem.IsCurrentItem()
```

IsEditable Method

Indicates whether this output item can be edited. The result is Boolean—*True* if the item can be edited, *False* otherwise.

Syntax

```
SpssOutputItem.IsEditable()
```

IsEqualTo Method

Indicates if this output item object is the same object as a specified output item object. The result is Boolean—*True* if the two objects are identical, *False* otherwise.

Syntax

```
SpssOutputItem.IsEqualTo(outputItem)
```

Parameters

outputItem	An `SpssOutputItem` object

IsSelected Method

Indicates whether the current output item is selected. The result is Boolean—*True* if the item is currently selected, *False* otherwise. Use the SetSelected method to select an item.

Syntax

```
SpssOutputItem.IsSelected()
```

IsVisible Method

Indicates if this output item is visible. The result is Boolean—*True* if the item is visible, *False* if it is hidden.

Syntax

```
SpssOutputItem.IsVisible()
```

SetAlignment Method

Sets the alignment for this output item.

Syntax

```
SpssOutputItem.SetAlignment(alignment)
```

Parameters

Set the value of *alignment* to one of the following:

SpssClient.OutputItemAlignment.Left	Left
SpssClient.OutputItemAlignment.Center	Center
SpssClient.OutputItemAlignment.Right	Right

SetCurrentItem Method

Sets the item as the current item—as indicated by a red arrow next to the item in the outline pane.

Syntax

```
SpssOutputItem.SetCurrentItem()
```

SetDescription Method

Sets the name of this output item. This is the name that is displayed in the outline pane of the Viewer. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences.

Syntax

```
SpssOutputItem.SetDescription(desc)
```

SetHeight Method

Sets the height of this output item in units of points (1/72 inch).

- This method is not available for pivot tables, header items, or the root item.

Syntax

```
SpssOutputItem.SetHeight(height)
```

SetPageBreak Method

Sets or clears a page break before this item.

Syntax

```
SpssOutputItem.SetPageBreak(pageBreak)
```

Parameters

pageBreak	True to set a page break, False to clear a page break.

SetProcedureName Method

Sets the procedure name associated with this output item. The argument is a string and is not translated.

Syntax

```
SpssOutputItem.SetProcedureName(procName)
```

SetSelected Method

Specifies whether the current output item is set as selected. You can use the IsSelected method to determine if a given item is already selected.

Syntax

```
SpssOutputItem.SetSelected(selected)
```

Parameters

selected	True to set this item as selected, False to set it as not selected.

SetSubType Method

Sets the OMS (Output Management System) sub-type identifier of this output item.

Syntax

```
SpssOutputItem.SetSubType(subType)
```

Parameters

subType	A string

SetTreeLevel Method

Sets the level of this item within the hierarchy of the output tree. For instance, the root item is at level 0, and header items beneath the root are at level 1.

Syntax

```
SpssOutputItem.SetTreeLevel(level)
```

Parameters

level	An integer

SetVisible Method

Specifies whether this output item is visible.

Syntax

```
SpssOutputItem.SetVisible(visible)
```

Parameters

visible	True to set the item as visible, False to set it as hidden.

SetWidth Method

Sets the width of this output item in units of points (1/72 inch).

- This method is not available for pivot tables, header items, or the root item.

Syntax

```
SpssOutputItem.SetWidth(width)
```

SpssChartItem Class

The SpssChartItem class represents a chart item in an output document. You get an SpssChartItem object from the collection of output items in an output document.

Example: Getting Chart Items

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.CHART:
        ChartItem = OutputItem.GetSpecificType()
```

- Chart items have an output item type of SpssClient.OutputItemType.CHART.
- Once an output item has been identified as a chart item, you get an SpssChartItem object by calling the GetSpecificType method on the output item object. In this example, *ChartItem* is an SpssChartItem object.

SetXML Method

Sets the chart XML from a UTF-8 (Unicode Transformation Format, 8 bit) string.

Syntax

```
SpssChartItem.SetXML(xml)
```

You can get the XML for a chart item using the GetXML method from the SpssOutputItem class. You can also use chart XML (OXML) created by the OMS command as the source for SetXML. To do so, extract the visualization element from the OXML, decode the resulting string to "UTF-8" (e.g., with the Python decode string method), and use the decoded string as the argument to SetXML.

SPSSSubtype Method

Returns a string specifying the type of chart.

Syntax

```
SpssChartItem.SPSSSubtype()
```

Returns

CHART	Standard chart
GRAPHBOARD	Graphboard chart

IMAGE	R graphic
TREEMODEL	Tree model

SpssModelItem Class

The `SpssModelItem` class represents a Model Viewer item in an output document. You get an `SpssModelItem` object from the collection of output items in an output document.

Example: Getting Model Viewer Items

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.MODEL:
        ModelItem = OutputItem.GetSpecificType()
```

- Model Viewer items have an output item type of `SpssClient.OutputItemType.MODEL`.
- Once an output item has been identified as a Model Viewer item, you get an `SpssModelItem` object by calling the `GetSpecificType` method on the output item object. In this example, *ModelItem* is an `SpssModelItem` object.

ExportAllViews Method

Exports all views of this Model Viewer item in the specified image format.

Syntax

```
SpssModelItem.ExportAllViews(filePrefix,format)
```

Parameters

The argument *filePrefix* is the full path and file name prefix for the files containing the exported views. Each view is exported to a separate file.

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (IBM® SPSS® Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

Set the value of *format* to one of the following:

SpssClient.ChartExportFormat.bmp	Windows bitmap
SpssClient.ChartExportFormat.emf	Enhanced metafile
SpssClient.ChartExportFormat.eps	Enhanced postscript

SpssClient.ChartExportFormat.jpg	JPG file
SpssClient.ChartExportFormat.png	PNG file
SpssClient.ChartExportFormat.tiff	Tagged image file

You can export the view displayed in the Viewer using the ExportToImage Method.

SetXML Method

Sets the XML for the Model Viewer item from a UTF-8 (Unicode Transformation Format, 8 bit) string.

Syntax

```
SpssModelItem.SetXML(xml)
```

You can get the XML for a Model Viewer item using the GetXML method from the `SpssOutputItem` class. You can also use model XML (OXML) created by the `OMS` command as the source for `SetXML`.

SpssHeaderItem Class

The `SpssHeaderItem` class represents a header item in an output document. You get an `SpssHeaderItem` object from the collection of output items in an output document.

Example: Getting Header Items

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.HEAD:
        HeaderItem = OutputItem.GetSpecificType()
```

- Header items have an output item type of `SpssClient.OutputItemType.HEAD`.
- Once an output item has been identified as a header item, you get an `SpssHeaderItem` object by calling the `GetSpecificType` method on the output item object. In this example, *HeaderItem* is an `SpssHeaderItem` object.

Note: The root item is an `SpssHeaderItem` object.

GetChildCount Method

Returns the child item count for this header item.

Syntax

```
SpssHeaderItem.GetChildCount()
```

GetChildItem Method

Returns an `SpssOutputItem` object for the child item at the specified index. Index values start from 0.

Syntax

```
SpssOutputItem=SpssHeaderItem.GetChildItem(index)
```

InsertChildItem Method

Inserts a child item—at the specified index—under the current header item in the associated output document. Index values start from 0 and are relative to the current header item.

- Use this method to insert header items, text items, and title items created with the `CreateHeaderItem`, `CreateTextItem`, and `CreateTitleItem` methods from the `SpssOutputDoc` class.

Syntax

```
SpssHeaderItem.InsertChildItem(item,index)
```

Parameters

item	An `SpssOutputItem` object
index	The index position of the new child item in the header item's child list. Index values start from 0. To append an item to the end of the child list, use an index value equal to the current child count.

Example: Appending a new header item containing a child text item

This example appends a new header item under the root item. A text item is added under the new header item.

```
import SpssClient
SpssClient.StartClient()
doc = SpssClient.GetDesignatedOutputDoc()
itemlist = doc.GetOutputItems()
# Get the root header item
root = itemlist.GetItemAt(0).GetSpecificType()
# Create a new header item
newHeader = doc.CreateHeaderItem("New header")
# Append the new header to the root item
root.InsertChildItem(newHeader,root.GetChildCount())
# Get the new header item
newHeaderItem = root.GetChildItem(root.GetChildCount()-1).GetSpecificType()
# Create a new text item
newText = doc.CreateTextItem("New text")
# Append the new text item to the new header item
newHeaderItem.InsertChildItem(newText,0)
SpssClient.StopClient()
```

Example: Inserting a text item under an existing header item

This example inserts a text item at index position 1, under a header item identified by the description string “Demo”.

```
import SpssClient
SpssClient.StartClient()
doc = SpssClient.GetDesignatedOutputDoc()
OutputItems = doc.GetOutputItems()
for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.HEAD \
         and OutputItem.GetDescription() == "Demo":
      HeaderItem = OutputItem.GetSpecificType()
      newText = doc.CreateTextItem("My inserted text")
      HeaderItem.InsertChildItem(newText,1)
SpssClient.StopClient()
```

IsExpanded Method

Indicates whether the associated header item is expanded. The result is Boolean—*True* if the header item is expanded, *False* otherwise.

Syntax

```
SpssHeaderItem.IsExpanded()
```

RemoveChildItem Method

Removes the child item at the specified index. Index values start from 0.

Syntax

```
SpssHeaderItem.RemoveChildItem(index)
```

SetExpanded Method

Sets whether the associated header item is expanded.

Syntax

```
SpssHeaderItem.SetExpanded(expand)
```

Parameters

expand	True to expand the item, False to collapse the item.

SpssLogItem Class

The `SpssLogItem` class represents a log item in an output document. You get an `SpssLogItem` object from the collection of output items in an output document.

Example: Getting Log Items

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.LOG:
        LogItem = OutputItem.GetSpecificType()
```

- Log items have an output item type of `SpssClient.OutputItemType.LOG`.
- Once an output item has been identified as a log item, you get an `SpssLogItem` object by calling the `GetSpecificType` method on the output item object. In this example, *LogItem* is an `SpssLogItem` object.

Append Method

Appends the specified text to the contents of the associated log output item.

Syntax

```
SpssLogItem.Append(text)
```

GetTextContents Method

Returns the contents of the associated log output item. The value is returned as plain text.

Syntax

```
SpssLogItem.GetTextContents()
```

SetTextContents Method

Sets the contents of the associated log output item, replacing any existing content. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences. For multiple lines, use `"\n"` to specify line breaks.

Syntax

```
SpssLogItem.SetTextContents(contents)
```

SpssTextItem Class

The `SpssTextItem` class represents a text item in an output document. You get an `SpssTextItem` object from the collection of output items in an output document.

Example: Getting Text Items

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.TEXT:
        TextItem = OutputItem.GetSpecificType()
```

- Text items have an output item type of `SpssClient.OutputItemType.TEXT`.
- Once an output item has been identified as a text item, you get an `SpssTextItem` object by calling the `GetSpecificType` method on the output item object. In this example, *TextItem* is an `SpssTextItem` object.

GetTextContents Method

Returns the contents of the associated text output item. The value is returned as plain text.

Syntax

```
SpssTextItem.GetTextContents()
```

SetTextContents Method

Sets the contents of the associated text output item, replacing any existing content. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences. For multiple lines, use `"\n"` to specify line breaks.

Syntax

```
SpssTextItem.SetTextContents(contents)
```

SpssTitleItem Class

The `SpssTitleItem` class represents a title item in an output document. You get an `SpssTitleItem` object from the collection of output items in an output document.

Example: Getting Title Items

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.TITLE:
        TitleItem = OutputItem.GetSpecificType()
```

- Title items have an output item type of `SpssClient.OutputItemType.TITLE`.
- Once an output item has been identified as a title item, you get an `SpssTitleItem` object by calling the `GetSpecificType` method on the output item object. In this example, *TitleItem* is an `SpssTitleItem` object.

GetTextContents Method

Returns the contents of the associated title output item. The value is returned as plain text.

Syntax

```
SpssTitleItem.GetTextContents()
```

SetTextContents Method

Sets the contents of the associated title output item, replacing any existing content. The value can be specified as plain text, HTML, or rich text format. For HTML, embed markup in a <html></html> block. For rich text format, specify the string as a raw string to avoid unintentional escape sequences.

Syntax

```
SpssTitleItem.SetTextContents(contents)
```

Chapter 7

Menus

MenuTableList Class

The `MenuTableList` class provides access to the list of available menu items for a data, output, or syntax document. You obtain a `MenuTableList` object from the `GetMenuTable` method of an SpssDataDoc, SpssOutputDoc, or SpssSyntaxDoc object.

A `MenuTableList` object is not an iterable Python object. In order to iterate over the items in the list, use a `for` loop, as in:

```
for index in range(MenuTableList.Size()):
```

For an example that uses the `MenuTableList` class, see the example for the SpssMenuItem class.

GetItemAt Method

Returns an `SpssMenuItem` object representing the menu item with the specified index.

Syntax

```
SpssMenuItem=MenuTableList.GetItemAt(index)
```

Size Method

Returns the number of items in a `MenuTableList` object.

Syntax

```
MenuTableList.Size()
```

SpssMenuItem Class

The `SpssMenuItem` class represents a menu item in a data, output, or syntax document. You get an `SpssMenuItem` object from the `GetItemAt` method of a `MenuTableList` object.

Example: Getting a List of Menu Items

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
MenuTableList = OutputDoc.GetMenuTable()
strMenuItemList = []
for i in range(MenuTableList.Size()):
    item = MenuTableList.GetItemAt(i)
    strMenuItemList.append(item.GetTextContents())
```

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GetTextContents Method

Returns the name of the menu item (as a string) associated with an `SpssMenuItem` object.

Syntax

```
SpssMenuItem.GetTextContents()
```

Chapter 8

Pivot Tables

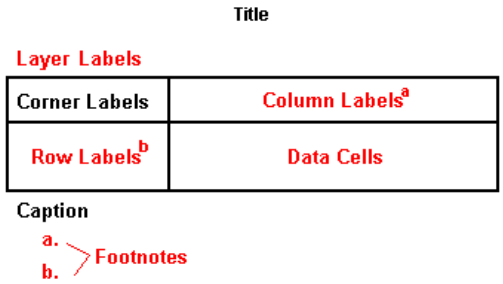
The scripting facility allows you to do most of the things you can do in the pivot table editor, through use of the `SpssPivotTable` class. There are two general approaches for working with pivot tables from scripting:

- Select groups of cells (results or labels) or other elements (such as footnotes) and apply methods that modify the entire selection. For example, you can change the foreground color for selected cells.
- Access a subset of the pivot table, such as its data cells or row labels, and modify a particular element in the subset. For example, you can access the data cells and call a method to set the foreground color for a specified cell.

Generally speaking, if you want to modify a number of elements in the same manner, the first approach is faster.

Areas of a Pivot Table

(Red labels indicate accessible objects.)



Available Objects

The `SpssPivotTable` object provides access to the following objects:

- SpssDataCells Provides access to the data cells.
- SpssLabels Provides access to the row and column labels.
- SpssFootnotes Provides access to all of the table's footnotes.
- SpssLayerLabels Provides access to labels in any layer dimensions.
- SpssPivotMgr Provides access to row, column, and layer dimensions.
- SpssDimension Provides access to the properties of a particular dimension.

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Compatibility with previous releases

Legacy tables (referred to as full-featured tables in release 19) are tables that are fully compatible with IBM® SPSS® Statistics releases prior to 20. Legacy tables may render slowly and are only recommended if compatibility with releases prior to 20 is required. You can specify that tables are rendered as legacy tables by calling the `SpssClient.SetPreference` method with the `TableRender` option set to `"full"`. For more information, see the topic SetPreference Method in Chapter 2 on p. 21. You can also specify legacy table creation with the command syntax `SET TABLERENDER = FULL`, or from the Pivot Tables tab of the Options dialog (Edit>Options) in SPSS Statistics.

- Tables, other than legacy tables, created in SPSS Statistics release 20 or later and lightweight tables in output documents that are modified in release 20 or later (but created in release 19) cannot be viewed or accessed through scripting in releases prior to 19.0.0.2. Such tables are viewable and accessible through scripting in release 19.0.0.2, where they are rendered as lightweight tables; however, they may not render the same as in release 20 or later.
- Lightweight tables created in SPSS Statistics release 19 automatically have full support for pivoting and editing in release 20 or later.

SpssPivotTable Class

The `SpssPivotTable` class allows you to operate on the table as a whole as well as providing access to objects for working with the footnotes, data cells, row or column labels, and layer labels associated with the table. Pivot tables are output items and are accessed from the list of output items associated with an output document.

Example: Getting Pivot Tables

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.PIVOT:
        PivotTable = OutputItem.GetSpecificType()
```

- Pivot tables have an output item type of `SpssClient.OutputItemType.PIVOT`.
- Once an output item has been identified as a pivot table, you get an `SpssPivotTable` object by calling the `GetSpecificType` method on the output item object. In this example, *PivotTable* is an `SpssPivotTable` object.

Example: Getting the First Selected Pivot Table

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.PIVOT \
      and OutputItem.IsSelected():
        PivotTable = OutputItem.GetSpecificType()
```

Example: Getting the First Pivot Table Labeled "Statistics"

```
import SpssClient
SpssClient.StartClient()

OutputDoc = SpssClient.GetDesignatedOutputDoc()
OutputItems = OutputDoc.GetOutputItems()

for index in range(OutputItems.Size()):
   OutputItem = OutputItems.GetItemAt(index)
   if OutputItem.GetType() == SpssClient.OutputItemType.PIVOT \
      and OutputItem.GetDescription() == "Statistics":
        PivotTable = OutputItem.GetSpecificType()
```

Autofit Method

Recalculates the size of all cells in the entire table to accommodate label lengths or the lengths of both labels and data values.

- To specify how the cells are to be recalculated (labels only or labels and data), use the SetPreference method from the `SpssClient` class and specify `SpssClient.PreferenceOptions.ColumnWidth` as the option.

Syntax

```
SpssPivotTable.Autofit()
```

ClearSelection Method

Deselects all selected output items or pivot table elements.

- All Select methods add the current item(s)/element(s) to what has been previously selected. Always clear selections before you start selecting output items or table elements.

Syntax

```
SpssPivotTable.ClearSelection()
```

ColumnLabelArray Method

Returns an `SpssLabels` object representing the column labels.

Syntax

```
SpssLabels=SpssPivotTable.ColumnLabelArray()
```

DataCellArray Method

Returns an `SpssDataCells` object representing the data cells of the pivot table.

Syntax

```
SpssDataCells=SpssPivotTable.DataCellArray()
```

DisplayTableByRows Method

Specifies whether to display the table *n* rows at a time, where *n* is set with the SetRowsToDisplayRowCount method. The argument is Boolean—*True* to display the table *n* rows at a time, *False* otherwise.

Note: This method is only available for legacy tables. For more information, see the topic Compatibility with previous releases on p. 95.

Syntax

```
SpssPivotTable.DisplayTableByRows(boolean)
```

FootnotesArray Method

Returns an `SpssFootnotes` object representing the table footnotes.

Syntax

```
SpssFootnotes=SpssPivotTable.FootnotesArray()
```

GetCaptionText Method

Returns the caption text for the current table.

Syntax

```
SpssPivotTable.GetCaptionText()
```

GetFootnoteMarkersPosition Method

Gets the current position—superscript or subscript—for footnote markers for the pivot table.

Syntax

```
SpssPivotTable.GetFootnoteMarkersPosition()
```

The returned value is one of:

SpssClient.SpssFootnoteMarkerTypes.SpssFtSuperscript	Superscript
SpssClient.SpssFootnoteMarkerTypes.SpssFtSubscript	Subscript

GetFootnoteMarkersStyle Method

Gets the current style—alphabetic or numeric—for footnote markers for the pivot table.

Syntax

```
SpssPivotTable.GetFootnoteMarkersStyle()
```

The returned value is one of:

SpssClient.SpssFootnoteMarkerTypes.SpssFtAlphabetic	Alphabetic
SpssClient.SpssFootnoteMarkerTypes.SpssFtNumeric	Numeric

GetHeight Method

Returns the height of the pivot table. The unit is the point (1/72 inch).

Syntax

```
SpssPivotTable.GetHeight()
```

GetRotateColumnLabels Method

Indicates if category labels closest to the data (that is, categories of the column dimension with the largest index) are rotated. The result is Boolean.

Syntax

```
SpssPivotTable.GetRotateColumnLabels()
```

Returns

True	The column labels closest to the data are displayed vertically
False	The column labels closest to the data are displayed horizontally

GetRotateRowLabels Method

Indicates if the labels of all but the last row dimension (that is, the row dimension with the largest index) are rotated. The result is Boolean.

Syntax

```
SpssPivotTable.GetRotateRowLabels()
```

Returns

True	The outer row labels are displayed vertically
False	The outer row labels are displayed horizontally

GetTitleText Method

Returns the text of the title for the table.

Syntax

```
SpssPivotTable.GetTitleText()
```

GetUpdateScreen Method

Returns whether changes in the pivot table are refreshed immediately. The result is Boolean—*True* if changes are refreshed immediately, *False* otherwise.

- By default, changes are refreshed immediately. Use the `SetUpdateScreen` method to specify that changes are not to be refreshed immediately.

Syntax

```
SpssPivotTable.GetUpdateScreen()
```

GetVarNamesDisplay Method

This method returns the setting for how variable names are displayed in the pivot table: as variable names, as variable labels, or both.

Syntax

```
SpssPivotTable.GetVarNamesDisplay()
```

Returns

SpssClient.VarNamesDisplay.Names	Names
SpssClient.VarNamesDisplay.Labels	Labels
SpssClient.VarNamesDisplay.Both	Names and labels

GetVarValuesDisplay Method

This method gets the setting for how variable values are displayed in the pivot table: as values, as value labels, or both.

Syntax

```
SpssPivotTable.GetVarValuesDisplay()
```

Returns

SpssClient.VarValuesDisplay.Values	Values
SpssClient.VarValuesDisplay.Labels	Labels
SpssClient.VarValuesDisplay.Both	Values and labels

GetWidowOrphanLines Method

Returns the number of allowable widow/orphan lines when pivot tables are printed.

- Widow lines are the last few lines of a paragraph printed at the top of the next page; orphan lines are the first few lines of a paragraph printed at the bottom of the previous page.

Syntax

```
SpssPivotTable.GetWidowOrphanLines()
```

GetWidth Method

Returns the width of the pivot table. The unit is the point (1/72 inch).

Syntax

```
SpssPivotTable.GetWidth()
```

Group Method

Groups selected category labels or group labels, creates a grouping level, and inserts a grouping label.

- The selection must be category or group labels.
- After the execution of this method, the inserted grouping label is selected and has the default label of *Group Label*.
- If a new group level is inserted, labels on the same and lower levels are demoted one level. (For column labels, the row index increases by one; for row labels, the column index increases by one.)

Syntax

```
SpssPivotTable.Group()
```

Example

This example assumes that *PivotTable* is an `SpssPivotTable` object, selects category column labels Clerical and Custodial, and groups them under the label of Non-Managerial.

```
ColumnLabels = PivotTable.ColumnLabelArray()

#Select the category column labels Clerical and Custodial:
PivotTable.ClearSelection()
for i in range(ColumnLabels.GetNumRows()):
   for j in range(ColumnLabels.GetNumColumns()):
            if ColumnLabels.GetValueAt(i,j) in ["Clerical","Custodial"]:
                ColumnLabels.SelectLabelAt(i,j)

#Group the categories and assign a group label:
PivotTable.Group()
for i in range(ColumnLabels.GetNumRows()):
   for j in range(ColumnLabels.GetNumColumns()):
            if ColumnLabels.GetValueAt(i,j)=="Group Label":
                ColumnLabels.SetValueAt(i,j,"Non-Managerial")
```

HideCaption Method

Hides the caption of the current table.

Syntax

```
SpssPivotTable.HideCaption()
```

HideFootnote Method

Hides the selected footnotes or all the footnotes referenced by the selected cell.

Syntax

```
SpssPivotTable.HideFootnote()
```

HideTitle Method

Hides the title of a pivot table.

Syntax

```
SpssPivotTable.HideTitle()
```

InsertFootnote Method

Inserts a footnote to the selected data or label cell.

- If multiple data cells or labels are selected, the footnote is attached to the first selected item.
- To set a footnote for corner text, first set the corner text with the `SpssPivotTable.SetCornerText` method.

Syntax

```
SpssPivotTable.InsertFootnote(string)
```

Parameters

string	Text of the footnote

IsDisplayTableByRows Method

Indicates whether the table is being displayed a fixed number of rows at a time. The result is Boolean—*True* if the table is being displayed a fixed number of rows at a time, *False* otherwise. Use the DisplayTableByRows method to change the setting.

Note: The feature to display a table a fixed number of rows at a time is only available for legacy tables. For more information, see the topic Compatibility with previous releases on p. 95.

Syntax

```
SpssPivotTable.IsDisplayTableByRows()
```

LayerLabelArray Method

Returns an `SpssLayerLabels` object representing all layer labels.

Syntax

```
SpssLayerLabels=SpssPivotTable.LayerLabelArray()
```

NavigateToFirstRow Method

Displays the first block of rows of the table when displaying the table a fixed number of rows at a time. Use the DisplayTableByRows method to display the table a fixed number of rows at a time.

Note: This method is only available for legacy tables. For more information, see the topic Compatibility with previous releases on p. 95.

Syntax

```
SpssPivotTable.NavigateToFirstRow()
```

NavigateToLastRow Method

Displays the last block of rows of the table when displaying the table a fixed number of rows at a time. Use the DisplayTableByRows method to display the table a fixed number of rows at a time.

Note: This method is only available for legacy tables. For more information, see the topic Compatibility with previous releases on p. 95.

Syntax

```
SpssPivotTable.NavigateToLastRow()
```

NavigateToNextRows Method

Displays the next block of rows of the table when displaying the table a fixed number of rows at a time. Use the DisplayTableByRows method to display the table a fixed number of rows at a time.

Note: This method is only available for legacy tables. For more information, see the topic Compatibility with previous releases on p. 95.

Syntax

```
SpssPivotTable.NavigateToNextRows()
```

NavigateToPreviousRows Method

Displays the previous block of rows of the table when displaying the table a fixed number of rows at a time. Use the DisplayTableByRows method to display the table a fixed number of rows at a time.

Note: This method is only available for legacy tables. For more information, see the topic Compatibility with previous releases on p. 95.

Syntax

```
SpssPivotTable.NavigateToPreviousRows()
```

NumericFormat Method

Sets the display format for numeric values in the selected cells of the current table.

```
SpssPivotTable.NumericFormat(format,decimal)
```

Parameters

format	The string description of the format.
decimal	Number of decimal places.

For a listing of the format types, see Appendix C on p. 204.

PivotManager Method

Returns an `SpssPivotMgr` object, providing access to the Pivot Manager.

Syntax

```
SpssPivotMgr=SpssPivotTable.PivotManager()
```

RowLabelArray Method

Returns an `SpssLabels` object representing the row labels.

Syntax

```
SpssLabels=SpssPivotTable.RowLabelArray()
```

SelectAllFootnotes Method

Selects all footnotes in the pivot table, in addition to what has already been selected.

Syntax

```
SpssPivotTable.SelectAllFootnotes()
```

SelectCaption Method

Selects the caption of the pivot table, in addition to all previously selected elements.

Syntax

```
SpssPivotTable.SelectCaption()
```

SelectCorner Method

Selects the corner of the pivot table, in addition to all previously selected elements.

Syntax

```
SpssPivotTable.SelectCorner()
```

SelectTable Method

Selects all the elements of a pivot table for modification.

Syntax

```
SpssPivotTable.SelectTable()
```

SelectTableBody Method

Selects the body of the pivot table (labels and data cells) for modification.

Syntax

```
SpssPivotTable.SelectTableBody()
```

SelectTitle Method

Selects the title of the pivot table for modification.

Syntax

```
SpssPivotTable.SelectTitle()
```

SetBackgroundColor Method

Sets the background color of the selected element(s) in the current pivot table.

Syntax

```
SpssPivotTable.SetBackgroundColor(color)
```

Parameters

color	Integer representation of the color

For information on setting color values, see Appendix A on p. 201.

SetBottomMargin Method

Sets the bottom margin of the selected cells in the current pivot table.

Syntax

```
SpssPivotTable.SetBottomMargin(margin)
```

Parameters

margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetCaptionText Method

Sets the caption text for the current table.

Syntax

```
SpssPivotTable.SetCaptionText(string)
```

Parameters

string	Caption text

SetCornerText Method

Sets the corner text.

Syntax

```
SpssPivotTable.SetCornerText(string)
```

Parameters

string	Corner text

SetDataCellWidths Method

Sets the width of all data cells of the current table.

Syntax

```
SpssPivotTable.SetDataCellWidths(width)
```

Parameters

width	An integer. The unit is the point (1/72 inch).

SetFootnoteMarkers Method

Sets the style of footnote markers for the entire table.

Syntax

```
SpssPivotTable.SetFootnoteMarkers(type)
```

Parameters

Set the value of *type* to one of the following:

SpssClient.SpssFootnoteMarkerTypes.SpssFtSuperscript	Superscript
SpssClient.SpssFootnoteMarkerTypes.SpssFtSubscript	Subscript
SpssClient.SpssFootnoteMarkerTypes.SpssFtAlphabetic	Alphabetic
SpssClient.SpssFootnoteMarkerTypes.SpssFtNumeric	Numeric

SetForegroundColor Method

This method is deprecated in release 17.0. Use the SetTextColor method instead.

SetHAlign Method

Sets the horizontal alignment of the selected elements in the current table.

Syntax

```
SpssPivotTable.SetHAlign(alignment)
```

Parameters

Set the value of *alignment* to one of the following:

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

SetHDecDigits Method

Sets the number of decimal digits for the selected cells of the pivot table.

Syntax

```
SpssPivotTable.SetHDecDigits(number)
```

Parameters

number	Number of decimal digits

SetLeftMargin Method

Sets the left margin of the selected cells in the pivot table.

Syntax

```
SpssPivotTable.SetLeftMargin(margin)
```

Parameters

margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetRightMargin Method

Sets the right margin for the selected cells in the pivot table.

Syntax

```
SpssPivotTable.SetRightMargin(margin)
```

Parameters

margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetRotateColumnLabels Method

Rotates the category labels closest to the data (that is, categories of the column dimension with the largest index).

Syntax

```
SpssPivotTable.SetRotateColumnLabels(boolean)
```

Parameters

True	The column labels closest to the data are displayed vertically
False	The column labels closest to the data are displayed horizontally

SetRotateRowLabels Method

Rotates the labels of all but the last row dimension (that is, the row dimension with the largest index).

Syntax

```
SpssPivotTable.SetRotateRowLabels(boolean)
```

Parameters

True	The outer row labels are displayed vertically
False	The outer row labels are displayed horizontally

SetRowsToDisplayRowCount Method

Sets the number of rows to be displayed at a time for the current pivot table. Note that you must also call the DisplayTableByRows method with an argument of True to specify that the table is to be displayed a fixed number of rows at a time.

Note: This method is only available for legacy tables. For more information, see the topic Compatibility with previous releases on p. 95.

Syntax

```
SpssPivotTable.SetRowsToDisplayRowCount(number)
```

Parameters

number	An integer specifying the number of rows to display at a time.

SetRowsToDisplayTolerance Method

Sets the widow/orphan tolerance to be used when displaying the table a fixed number of rows at a time (as set by the DisplayTableByRows method). The default is 0.

- If a break between blocks of rows leaves widow rows equal to or less than the specified tolerance, then the break point is shifted up in the table to display those rows in the next block.

- If a break between blocks of rows leaves orphan rows equal to or less than the specified tolerance, then the break point is shifted down in the table to display those rows in the previous block.
- If a break between blocks of rows leaves both widow and orphan rows equal to or less than the specified tolerance, then the break point is shifted up in the table to display the widow rows in the next block.

Note: This method is only available for legacy tables. For more information, see the topic Compatibility with previous releases on p. 95.

Syntax

```
SpssPivotTable.SetRowsToDisplayTolerance(number)
```

Parameters

number	An integer specifying the widow/orphan tolerance.

SetTableLook Method

Applies a predefined table look.

Syntax

```
SpssPivotTable.SetTableLook(filename)
```

Parameters

filename	Path to the TableLook (.stt) file

On Windows, it is recommended to use raw strings for file paths, or replace backslashes with forward slashes (IBM® SPSS® Statistics accepts a forward slash for any backslash in a file specification). Raw strings are specified by prefacing the string with r, as in r'c:\examples\mydata.sav'. In raw mode, Python treats all backslashes in the string as the backslash character and not as the start of an escape sequence.

SetTextColor Method

Sets the color of the text in the selected cells of the pivot table.

Syntax

```
SpssPivotTable.SetTextColor(color)
```

Parameters

color	Integer representation of the color

For information on setting color values, see Appendix A on p. 201.

SetTextFont Method

Sets the font of the text in the selected cells of the pivot table.

Syntax

```
SpssPivotTable.SetTextFont(fontname)
```

Parameters

fontname	Name of the font family, as a string. Available fonts are accessed from Format>Table Properties in the pivot table editor.

SetTextHidden Method

Sets the hidden effect of the text in the selected cells of the pivot table.

Syntax

```
SpssPivotTable.SetTextHidden(boolean)
```

Parameters

True	Hidden
False	Not hidden

SetTextSize Method

Sets the font size of the text in the selected cells of the pivot table.

Syntax

```
SpssPivotTable.SetTextSize(size)
```

Parameters

size	Size in points (integer)

SetTextStyle Method

Sets the bold or italic style of the text in the selected cells of the pivot table.

Syntax

```
SpssPivotTable.SetTextStyle(style)
```

Parameters

Set the value of *style* to one of the following:

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

SetTextUnderlined Method

Sets the underlined effect of the text in the selected cells of the pivot table.

Syntax

```
SpssPivotTable.SetTextUnderlined(boolean)
```

Parameters

True	Underlined
False	Not underlined

SetTitleText Method

Sets the text of the title for the pivot table.

Syntax

```
SpssPivotTable.SetTitleText(title)
```

Parameters

title	Text of the title

SetTopMargin Method

Sets the top margin of the selected cells in the pivot table.

Syntax

```
SpssPivotTable.SetTopMargin(margin)
```

Parameters

margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetUpdateScreen Method

Sets whether changes in the pivot table are refreshed immediately. The argument is Boolean—*True* if changes are refreshed immediately, *False* otherwise.

- By default, changes are refreshed immediately.

Syntax

```
SpssPivotTable.SetUpdateScreen(boolean)
```

Example

This example assumes that *PivotTable* is an `SpssPivotTable` object, and stops refreshing while looping through the row labels and making changes.

```
PivotTable.SetUpdateScreen(False)
rowlabels = PivotTable.RowLabelArray()
for i in range(rowlabels.GetNumRows()):
   for j in range(rowlabels.GetNumColumns()):
      if rowlabels.GetValueAt(i,j)=="Female":
         rowlabels.SetValueAt(i,j,"Women")
PivotTable.SetUpdateScreen(True)
```

Note: Setting the immediate refresh off (parameter set to *False*) prevents flashing when you make changes to individual cells in a loop (in internal scripting), but it may also prevent you assessing the results immediately. A better way is to avoid making changes cell by cell but select the cells and change the selection using a method on the pivot table object. This is also a faster way.

SetVAlign Method

Sets the vertical alignment of the text in the selected cells of the pivot table.

Syntax

```
SpssPivotTable.SetVAlign(alignment)
```

Parameters

Set the value of *alignment* to one of the following:

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

SetVarNamesDisplay Method

This method sets how variable names are displayed in the pivot table: as variable names, as variable labels, or both.

Syntax

```
SpssPivotTable.SetVarNamesDisplay(display)
```

Parameters

Set the value of *display* to one of the following:

SpssClient.VarNamesDisplay.Names	Names
SpssClient.VarNamesDisplay.Labels	Labels
SpssClient.VarNamesDisplay.Both	Names and labels

SetVarValuesDisplay Method

This method sets how variable values are displayed in the pivot table: as values, as value labels, or both.

Syntax

```
SpssPivotTable.SetVarValuesDisplay(display)
```

Parameters

Set the value of *display* to one of the following:

SpssClient.VarValuesDisplay.Values	Values
SpssClient.VarValuesDisplay.Labels	Labels
SpssClient.VarValuesDisplay.Both	Values and labels

SetWidowOrphanLines Method

Sets the number of allowable widow/orphan lines when pivot tables are printed.

- Widow lines are the last few lines of a paragraph printed at the top of the next page; orphan lines are the first few lines of a paragraph printed at the bottom of the previous page.

Syntax

```
SpssPivotTable.SetWidowOrphanLines(number)
```

Parameters

number	Line limit (integer). The valid range is 1 to 100.

ShowAll Method

Shows all labels and data.

Syntax

```
SpssPivotTable.ShowAll()
```

ShowAllFootnotes Method

Shows all footnotes associated with the pivot table.

Syntax

```
SpssPivotTable.ShowAllFootnotes()
```

ShowCaption Method

Shows the caption of the pivot table.

Syntax

```
SpssPivotTable.ShowCaption()
```

ShowFootnote Method

Shows the hidden footnote(s) referenced by the selected label(s), data cell(s) or title.

- Ignored if no hidden footnote is referenced.

Syntax

```
SpssPivotTable.ShowFootnote()
```

ShowTitle Method

Shows the title of the pivot table.

Syntax

```
SpssPivotTable.ShowTitle()
```

Ungroup Method

Deletes selected group labels and ungroups the category or group labels in the deleted group(s).

- If all group labels on one level are removed, labels on the lower levels are promoted one level. (For column labels, the row index increases by one; for row labels, the column index increases by one.)
- Selection must be group labels.

Syntax

```
SpssPivotTable.Ungroup()
```

SpssDataCells Class

The `SpssDataCells` object provides access to the data cells of a pivot table. In most pivot tables, the data cells contain the results of the statistical analysis. You need to use the `SpssDataCells` object if you want to highlight significant values in the output (for example, making bold all correlation coefficients that are greater than a specified value) or to retrieve specific statistics from the output (for example, the means and standard deviations of each group or variable).

The `SpssDataCells` object represents a 2-dimensional array of the data cells you can view in a pivot table. If there are no layer dimensions, all of the cells will be accessible; otherwise, the table must be pivoted in order to fully access the data currently in layer dimensions.

The data cells array has the same number of rows as the row labels array and the same number of columns as the column labels array. That is to say, row indexes for the row labels and column indexes for the column labels respectively correspond to the row and column indexes for the data cells.

Note: If the current table has been set to display blocks of rows—either using `SET ROWSBREAK` or by checking Display the table as blocks of rows on the Pivot Tables tab of the Options dialog box—then methods of the `SpssDataCells` class that access specific cells, such as `GetTextColorAt`, will only have access to the first block of rows. Exceptions to this behavior are the `GetValueAt`, `SetValueAt`, and `GetUnformattedValueAt` methods, which can access all rows of the pivot table, regardless of whether the table is displayed in blocks of rows.

You get an `SpssDataCells` object from the DataCellArray method of an `SpssPivotTable` object, as in:

```
SpssDataCells = SpssPivotTable.DataCellArray()
```

Example: Modifying Specific Cells

This example assumes that `PivotTable` is an `SpssPivotTable` object, and sets the background color to red for all data cells containing a value below 0.01.

```
DataCells = PivotTable.DataCellArray()
for i in range(DataCells.GetNumRows()):
   for j in range(DataCells.GetNumColumns()):
      try:
         val = float(DataCells.GetValueAt(i,j))
         if  val < 0.01:
            DataCells.SetBackgroundColorAt(i,j,255)
      except:
         pass
```

- The value returned from `GetValueAt` is a unicode string. If the value is a representation of a numeric value, it is converted to a float, otherwise an exception is raised and control passes to the `except` clause. Since the `except` clause only contains a `pass` statement, execution continues.

GetBackgroundColorAt Method

Returns the background color of the specified data cell.

Syntax

```
SpssDataCells.GetBackgroundColorAt(row,column)
```

Parameters

row	Row index
column	Column index

Returns

The color is returned as an integer. For more information, see the topic Setting Color Values in Appendix A on p. 201.

GetBottomMarginAt Method

Returns the bottom margin of the specified data cell. The unit is the point (1/72 inch).

Syntax

```
SpssDataCells.GetBottomMarginAt(row,column)
```

Parameters

row	Row index
column	Column index

GetForegroundColorAt Method

This method is deprecated in release 17.0. Use the GetTextColorAt method instead.

GetHAlignAt Method

Returns the horizontal alignment of the specified data cell.

Syntax

```
SpssDataCells.GetHAlignAt(row,column)
```

Parameters

row	Row index
column	Column index

Returns

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

GetHDecDigitsAt Method

Returns the number of decimal digits allowed in decimal alignment for the specified data cell.

Syntax

```
SpssDataCells.GetHDecDigitsAt(row,column)
```

Parameters

row	Row index
column	Column index

GetLeftMarginAt Method

Returns the left margin of the specified data cell. The unit is the point (1/72 inch).

Syntax

```
SpssDataCells.GetLeftMarginAt(row,column)
```

Parameters

row	Row index
column	Column index

GetNumColumns Method

Returns the number of columns in the `SpssDataCells` object.

Syntax

```
SpssDataCells.GetNumColumns()
```

GetNumericFormatAt method

Returns the display format for the numeric value in the specified data cell.

```
SpssDataCells.GetNumericFormatAt(row,column)
```

Parameters

row	Row index
column	Column index

Return Value

The string description of the format. For a listing of the format types, see Appendix C on p. 204.

Note: To obtain detailed format information for custom currency formats use the `GetNumericFormatAtEx` method.

GetNumericFormatAtEx method

Returns an `SpssNumericFormat` object from which you can obtain detailed formatting information for a specified data cell, such as the prefix, separator, and suffix for a cell with a custom currency format.

```
SpssNumericFormat=SpssDataCells.GetNumericFormatAtEx(row,column)
```

Parameters

row	Row index
column	Column index

The `SpssNumericFormat` object supports two methods. `GetFormatListSize` indicates the number of format items available for retrieval—3 if the current cell has a custom currency format, and 1 otherwise. `GetFormatStringAt` retrieves a specified format item. It takes an integer (zero

based) that specifies the index of the format item to retrieve. The following table describes the values retrieved by `GetFormatStringAt`.

GetFormatStringAt(0)	If the list size is 3 then the returned value is the prefix of the value in the associated data cell; otherwise the returned value is the same as that returned from the GetNumericFormatAt method.
GetFormatStringAt(1)	Returns the separator character of the format for the value in the associated data cell. Only available when the list size is greater than 1.
GetFormatStringAt(2)	Returns the suffix of the value in the associated data cell. Only available when the list size is greater than 2.

GetNumRows Method

Returns the number of rows in the `SpssDataCells` object.

Syntax

```
SpssDataCells.GetNumRows()
```

GetReferredFootnotesAt Method

Returns an `SpssFootnotes` object, which allows access to all the footnotes referred to by the specified data cell.

- The footnotes array is a subset of the Footnotes object you can get from the pivot table. You can manipulate the subset using the same properties and methods, but the index of a footnote in this array is in no way related to the index of the same footnote when accessed from the pivot table.

Syntax

```
SpssFootnotes=SpssDataCells.GetReferredFootnotesAt(row,column)
```

Parameters

row	Row index
column	Column index

Example

This example gets the footnotes associated with the cell in the first row and first column of the data cell array and sets the text color and text style of the first footnote (index value 0) to red and bold respectively. It assumes that `PivotTable` is an `SpssPivotTable` object.

```
DataCells = PivotTable.DataCellArray()
Footnotes = DataCells.GetReferredFootnotesAt(0,0)
Footnotes.SetTextStyleAt(0,SpssClient.SpssTextStyleTypes.SpssTSBold)
Footnotes.SetTextColorAt(0,255)
```

GetRightMarginAt Method

Returns the right margin of the specified data cell. The unit is the point (1/72 inch).

Syntax

```
SpssDataCells.GetRightMarginAt(row,column)
```

Parameters

row	Row index
column	Column index

GetTextColorAt Method

Returns the color of the text in the specified data cell.

Syntax

```
SpssDataCells.GetTextColorAt(row,column)
```

Parameters

row	Row index
column	Column index

Returns

The color is returned as an integer. For more information, see the topic Setting Color Values in Appendix A on p. 201.

GetTextFontAt Method

Returns the font of the text in the specified data cell, as a string.

Syntax

```
SpssDataCells.GetTextFontAt(row,column)
```

Parameters

row	Row index
column	Column index

GetTextHiddenAt Method

Returns the hidden effect of the text in the specified data cell. The result is Boolean.

Syntax

```
SpssDataCells.GetTextHiddenAt(row,column)
```

Parameters

row	Row index
column	Column index

Returns

True	Hidden
False	Not hidden

GetTextSizeAt Method

Returns the font size of the text in the specified data cell.

Syntax

```
SpssDataCells.GetTextSizeAt(row,column)
```

Parameters

row	Row index
column	Column index

GetTextStyleAt Method

Returns the bold or italic style of the text in the specified data cell.

Syntax

```
SpssDataCells.GetTextStyleAt(row,column)
```

Parameters

row	Row index
column	Column index

Returns

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

GetTextUnderlinedAt Method

Returns the underlined effect of the text in the specified data cell. The result is Boolean.

Syntax

```
SpssDataCells.GetTextUnderlinedAt(row,column)
```

Parameters

row	Row index
column	Column index

Returns

True	Underlined
False	Not underlined

GetTopMarginAt Method

Returns the top margin of the specified data cell. The unit is the point (1/72 inch).

Syntax

```
SpssDataCells.GetTopMarginAt(row,column)
```

Parameters

row	Row index
column	Column index

GetVAlignAt Method

Returns the vertical alignment of the specified data cell.

Syntax

```
SpssDataCells.GetVAlignAt(row,column)
```

Parameters

row	Row index
column	Column index

Returns

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

GetUnformattedValueAt Method

Returns the unformatted value of the specified data cell, as a unicode string. This allows you to obtain all available digits for a cell that contains a numeric value. In addition, any footnote markers associated with the cell are removed in the returned value. To obtain the value of the cell, formatted in the same manner as it appears in the pivot table, use the GetValueAt method.

Syntax

```
SpssDataCells.GetUnformattedValueAt(row,column)
```

Parameters

row	Row index
column	Column index

GetValueAt Method

Returns the value of the specified data cell, as a unicode string, and formatted in the same manner as it appears in the pivot table. To obtain an unformatted version of the cell, use the GetUnformattedValueAt method.

Syntax

```
SpssDataCells.GetValueAt(row,column,includeFootnotes)
```

Parameters

row	Row index
column	Column index
includeFootnotes	Optional Boolean specifying whether to include footnote markers in the returned value. The default is *True*.

HideFootnotesAt Method

Hides all footnotes referenced by the specified data cell.

Syntax

```
SpssDataCells.HideFootnotesAt(row,column)
```

Parameters

row	Row index
column	Column index

InsertNewFootnoteAt Method

Inserts a new footnote for the specified data cell.

Syntax

```
index=SpssDataCells.InsertNewFootnoteAt(row,column,string)
```

Parameters

row	Row index
column	Column index
string	New footnote text

Return Value

index	Integer (to be used to insert the footnote in other cells if it is a shared footnote)

Example

This example inserts a footnote for the cell in the first row and first column of the data cell array and inserts a shared footnote for each cell whose value is identical to this one. It assumes that `PivotTable` is an `SpssPivotTable` object.

```
DataCells = PivotTable.DataCellArray()
val = DataCells.GetUnformattedValueAt(0,0)
index = DataCells.InsertNewFootnoteAt(0,0,"My footnote")
for i in range(DataCells.GetNumRows()):
   for j in range(DataCells.GetNumColumns()):
      if DataCells.GetUnformattedValueAt(i,j) == val:
         DataCells.InsertSharedFootnoteAt(i,j,index)
```

InsertSharedFootnoteAt Method

Inserts a shared footnote (a footnote that applies to multiple data cells and/or labels) for the specified data cell.

Syntax

```
SpssDataCells.InsertSharedFootnoteAt(row,column,index)
```

Parameters

row	Row index.
column	Column index
index	The index (in the footnote array) of the desired footnote.

Note: When inserting a shared footnote along with a new footnote created with the `InsertNewFootnoteAt` method, you can use the index value returned by the `InsertNewFootnoteAt` method. For more information, see the topic InsertNewFootnoteAt Method on p. 125.

ReSizeColumn Method

Resets the width of the current column.

Syntax

```
SpssDataCells.ReSizeColumn(column,width)
```

Parameters

column	Column index
width	An integer. The unit is the point (1/72 inch).

SelectCellAt Method

Selects the specified data cell, in addition to previously selected elements.

Syntax

```
SpssDataCells.SelectCellAt(row,column)
```

Parameters

row	Row index
column	Column index

SelectReferredFootnotesAt Method

Selects all the footnotes referenced by the specified data cell, in addition to previously selected elements.

Syntax

```
SpssDataCells.SelectReferredFootnotesAt(row,column)
```

Parameters

row	Row index
column	Column index

Note: This method is not available for legacy tables. To modify footnotes associated with a particular data cell in a legacy table, use the GetReferredFootnotesAt method to get an `SpssFootnotes` object containing the footnotes. You can then use the methods of the `SpssFootnotes` object to make the desired modifications.

SetBackgroundColorAt Method

Sets the background color of the specified data cell.

Syntax

```
SpssDataCells.SetBackgroundColorAt(row,column,color)
```

Parameters

row	Row index
column	Column index
color	Integer representation of the color

For information on setting color values, see Appendix A on p. 201.

SetBottomMarginAt Method

Sets the bottom margin of the specified data cell.

Syntax

```
SpssDataCells.SetBottomMarginAt(row,column,margin)
```

Parameters

row	Row index
column	Column index
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetForegroundColorAt Method

This method is deprecated in release 17.0. Use the SetTextColorAt method instead.

SetHAlignAt Method

Sets the horizontal alignment of the specified data cell.

Syntax

```
SpssDataCells.SetHAlignAt(row,column,alignment)
```

Parameters

row	Row index
column	Column index

Set the value of *alignment* to one of the following:

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

SetHDecDigitsAt Method

Sets the number of decimal digits for the specified data cell.

Syntax

```
SpssDataCells.SetHDecDigitsAt(row,column,number)
```

Parameters

row	Row index
column	Column index
number	Number of decimal digits

SetLeftMarginAt Method

Sets the left margin of the specified data cell.

Syntax

```
SpssDataCells.SetLeftMarginAt(row,column,margin)
```

Parameters

row	Row index
column	Column index
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetNumericFormatAt method

Sets the display format for the numeric value in the current cell.

```
SpssDataCells.SetNumericFormatAt(row,column,format)
```

Parameters

row	Row index
column	Column index
format	The string description of the format.

For a listing of the format types, see Appendix C on p. 204.

SetNumericFormatAtWithDecimal method

Sets the display format for the numeric value in the current cell.

```
SpssDataCells.SetNumericFormatAtWithDecimal(row,column,format,decimal)
```

Parameters

row	Row index
column	Column index
format	The string description of the format.
decimal	Number of decimal places. The default is 0.

For a listing of the format types, see Appendix C on p. 204.

SetRightMarginAt Method

Sets the right margin of the specified data cell.

Syntax

```
SpssDataCells.SetRightMarginAt(row,column,margin)
```

Parameters

row	Row index
column	Column index
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetTextColorAt Method

Sets the color of the text in the specified data cell.

Syntax

```
SpssDataCells.SetTextColorAt(row,column,color)
```

Parameters

row	Row index
column	Column index
color	Integer representation of the color

For information on setting color values, see Appendix A on p. 201.

SetTextFontAt Method

Sets the font of the text in the specified data cell.

Syntax

```
SpssDataCells.SetTextFontAt(row,column,fontname)
```

Parameters

row	Row index
column	Column index
fontname	Name of the font family, as a string. Available fonts are accessed from Format>Cell Properties in the pivot table editor.

SetTextHiddenAt Method

Sets the hidden effect of the text in the specified data cell.

Syntax

```
SpssDataCells.SetTextHiddenAt(row,column,boolean)
```

Parameters

row	Row index
column	Column index
boolean	True for hidden, False for not hidden

SetTextSizeAt Method

Sets the font size of the text in the specified data cell.

Syntax

```
SpssDataCells.SetTextSizeAt(row,column,size)
```

Parameters

row	Row index
column	Column index
size	Size in points (integer)

SetTextStyleAt Method

Sets the bold or italic style of the text in the specified data cell.

Syntax

```
SpssDataCells.SetTextStyleAt(row,column,style)
```

Parameters

row	Row index
column	Column index

Set the value of *style* to one of the following:

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

SetTextUnderlinedAt Method

Sets the underlined effect of the text in the specified data cell.

Syntax

```
SpssDataCells.SetTextUnderlinedAt(row,column,boolean)
```

Parameters

row	Row index
column	Column index
boolean	True for underlined, False for not underlined

SetTopMarginAt Method

Sets the top margin of the specified data cell.

Syntax

```
SpssDataCells.SetTopMarginAt(row,column,margin)
```

Parameters

row	Row index
column	Column index
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetVAlignAt Method

Sets the vertical alignment of the specified data cell.

Syntax

```
SpssDataCells.SetVAlignAt(row,column,alignment)
```

Parameters

row	Row index
column	Column index

Set the value of *alignment* to one of the following:

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

SetValueAt Method

Sets the value of the specified data cell.

Syntax

```
SpssDataCells.SetValueAt(row,column,value)
```

Parameters

row	Row index
column	Column index
value	Value as a string

ShowFootnotesAt Method

Displays all the footnotes referenced by the specified data cell.

Syntax

```
SpssDataCells.ShowFootnotesAt(row,column)
```

Parameters

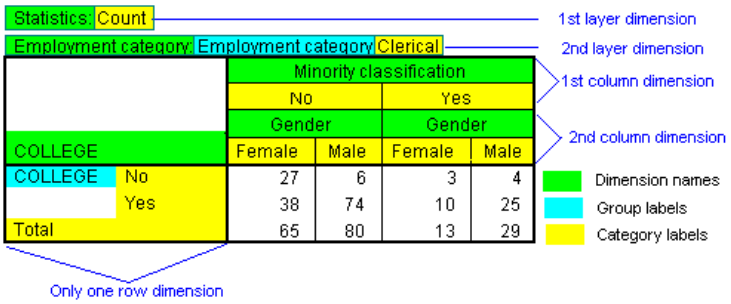
row	Row index
column	Column index

SpssDimension Class

The `SpssDimension` class provides access to a pivot table's dimensions. A pivot table can have three types of dimensions: column dimensions, row dimensions, and layer dimensions. Using an `SpssDimension` object you can obtain the name of a dimension, change the current category, or pivot the dimension.

Table Dimensions

The following is an illustration of the three types of dimension in a pivot table. To see the pivot table with all its labels (as shown in the figure), double-click it and select View>Show All from the menus in the pivot table editor.



To display the pivot trays (if they are not on the screen), select Pivot >Pivoting Trays from the menus.

Getting an SpssDimension Object

You get an `SpssDimension` object from the GetColumnDimension, GetLayerDimension, or GetRowDimension method of an `SpssPivotMgr` object. The `SpssPivotMgr` object is obtained from the `SpssPivotTable` object. For example, the following gets an `SpssDimension` object for the row dimension with index 1:

```
SpssPivotMgr = SpssPivotTable.PivotManager()
SpssDimension = SpssPivotMgr.GetRowDimension(1)
```

Example

This example assumes that `PivotTable` is an `SpssPivotTable` object and moves the "Statistics" row dimension to the first column dimension.

```
PivotManager = PivotTable.PivotManager()
# Search for the row dimension named "Statistics" and pivot it to
# the first column dimension.
for i in range(PivotManager.GetNumRowDimensions()):
    RowDim = PivotManager.GetRowDimension(i)
    if RowDim.GetDimensionName()  == "Statistics":
        RowDim.MoveToColumn(0)
        break
```

GetCategoryValueAt Method

Returns the label associated with the current category.

Syntax

```
SpssDimension.GetCategoryValueAt(index)
```

Parameters

index	Category index within the column or row dimension

GetCurrentCategory Method

Returns the index for the current category.

Syntax

```
SpssDimension.GetCurrentCategory()
```

GetDimensionName Method

Returns the dimension name.

Syntax

```
SpssDimension.GetDimensionName()
```

GetFullDimensionLabel Method

Returns the value of the label for the dimension, which is a concatenation of the dimension name, all the group labels (if any), and the label for the current category.

Syntax

```
SpssDimension.GetFullDimensionLabel()
```

GetNumCategories Method

Returns the number of categories in the dimension.

Syntax

```
SpssDimension.GetNumCategories()
```

HideLabel Method

Hides the dimension label.

Syntax

```
SpssDimension.HideLabel()
```

MoveToColumn Method

Pivots the dimension to the column, placing it before the specified column dimension.

Syntax

```
SpssDimension.MoveToColumn(index)
```

Parameters

index	Column dimension index

MoveToLayer Method

Pivots the dimension to the layer, placing it before the specified layer dimension.

Syntax

```
SpssDimension.MoveToLayer(index)
```

Parameters

index	Layer dimension index

MoveToRow Method

Pivots the dimension to the row, placing it before the specified row dimension.

Syntax

```
SpssDimension.MoveToRow(index)
```

Parameters

index	Row dimension index

SetCurrentCategory Method

Sets the specified category as current.

Syntax

```
SpssDimension.SetCurrentCategory(index)
```

Parameters

index	Category index

SetDimensionName Method

Sets the dimension name.

Syntax

```
SpssDimension.SetDimensionName(name)
```

SpssFootnotes Class

The `SpssFootnotes` class provides access to all of the footnotes contained in a pivot table. The index of a footnote does not correspond to the footnote marker but to the order of their references in the table. The index is returned when you insert a new footnote.

You get an `SpssFootnotes` object from the FootnotesArray method of an `SpssPivotTable` object, as in:

```
SpssFootnotes = SpssPivotTable.FootnotesArray()
```

An `SpssFootnotes` object is also returned by the `GetReferredFootnotesAt` method of an `SpssDataCells` or `SpssLabels` object. The footnote collection thus returned contains only the footnotes referred to by the specified data cell or label. The indexes for the returned collection are in the ordinal order of the references in the referring cell. IBM® SPSS® Statistics does not provide a method to go from a footnote referred to by a cell to the same footnote contained in the footnote array of the table.

Example

This example assumes that `PivotTable` is an `SpssPivotTable` object and sets the background color to yellow for all data cells that have footnotes.

```
Footnotes = PivotTable.FootnotesArray()
PivotTable.ClearSelection()
for i in range(Footnotes.GetCount()):
    Footnotes.SelectCellAt(i)
PivotTable.SetBackgroundColor(65535)
```

ChangeMarkerToRegular Method

Changes the marker of the current footnote to the regular marker. The marker is either alphabetic or numeric. The footnote marker type is set from the `SetFootnoteMarkers` method in the `SpssPivotTable` class.

Syntax

```
SpssFootnotes.ChangeMarkerToRegular(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

ChangeMarkerToSpecial Method

Changes the marker of the current footnote to the special marker.

Syntax

```
SpssFootnotes.ChangeMarkerToSpecial(index,newmarker)
```

Parameters

index	Index of the footnote
newmarker	Special marker for the footnote. The value is a string with a maximum length of two characters.

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

GetBackgroundColorAt Method

Returns the background color of the specified footnote.

Syntax

```
SpssFootnotes.GetBackgroundColorAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Returns

The color is returned as an integer. For more information, see the topic Setting Color Values in Appendix A on p. 201.

Note: This method is not available for legacy tables.

GetBottomMarginAt Method

Returns the bottom margin of the specified footnote. The unit is the point (1/72 inch).

Syntax

```
SpssFootnotes.GetBottomMarginAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables.

GetCount Method

Returns the number of footnotes associated with the current pivot table.

Syntax

```
SpssFootnotes.GetCount()
```

GetForegroundColorAt Method

This method is deprecated in release 17.0 and obsolete for legacy tables in release 20 and higher. Use the GetTextColorAt method instead.

GetHAlignAt Method

Returns the horizontal alignment of the specified footnote.

Syntax

```
SpssFootnotes.GetHAlignAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Returns

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

Note: This method is not available for legacy tables.

GetLeftMarginAt Method

Returns the left margin for the specified footnote. The unit is the point (1/72 inch).

Syntax

```
SpssFootnotes.GetLeftMarginAt(index)
```

Parameters

index	Index of the footnote.

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables.

GetRightMarginAt Method

Returns the right margin of the specified footnote. The unit is the point (1/72 inch).

Syntax

```
SpssFootnotes.GetRightMarginAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables.

GetTextColorAt Method

Returns the color of the text of the specified footnote.

Syntax

```
SpssFootnotes.GetTextColorAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Returns

The color is returned as an integer. For more information, see the topic Setting Color Values in Appendix A on p. 201.

GetTextFontAt Method

Returns the font of the text in the specified footnote, as a string.

Syntax

```
SpssFootnotes.GetTextFontAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

GetTextHiddenAt Method

Returns the hidden effect of the specified footnote. The result is a Boolean.

Syntax

```
SpssFootnotes.GetTextHiddenAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Returns

True	Hidden
False	Not hidden

GetTextSizeAt Method

Returns the font size of the specified footnote.

Syntax

```
SpssFootnotes.GetTextSizeAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

GetTextStyleAt Method

Returns the bold or italic style of the text for specified footnote.

Syntax

```
SpssFootnotes.GetTextStyleAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Returns

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

GetTextUnderlinedAt Method

Returns the underlined effect of the specified footnote. The result is a Boolean.

Syntax

```
SpssFootnotes.GetTextUnderlinedAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Returns

True	Underlined
False	Not underlined

Note: This method is not available for legacy tables.

GetTopMarginAt Method

Returns the top margin of the specified footnote. The unit is the point (1/72 inch).

Syntax

```
SpssFootnotes.GetTopMarginAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables.

GetVAlignAt Method

Returns the vertical alignment of the specified footnote.

Syntax

```
SpssFootnotes.GetVAlignAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Returns

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

Note: This method is not available for legacy tables.

GetValueAt Method

Returns the value associated with the specified footnote, as a unicode string.

Syntax

```
SpssFootnotes.GetValueAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

RenumberFootnotes Method

Renumbers all footnotes.

Syntax

```
SpssFootnotes.RenumberFootnotes()
```

SelectCellAt Method

Selects the data or label cell associated with the specified footnote, in addition to previously selected elements.

Syntax

```
SpssFootnotes.SelectCellAt(index)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

SetBackgroundColorAt Method

Sets the background color of the specified footnote.

Syntax

```
SpssFootnotes.SetBackgroundColorAt(index,color)
```

Parameters

index	Index of the footnote
color	Integer representation of the color

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

For information on setting color values, see Appendix A on p. 201.

Note: This method is not available for legacy tables. You can set the background color of all footnotes in a legacy table by selecting all footnotes with the SpssPivotTable.SelectAllFootnotes method and then calling the SpssPivotTable.SetBackgroundColor method.

SetBottomMarginAt Method

Sets the bottom margin of the specified footnote.

Syntax

```
SpssFootnotes.SetBottomMarginAt(index,margin)
```

Parameters

index	Index of the footnote
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables. You can set the bottom margin of the footnote area in a legacy table by selecting all footnotes with the SpssPivotTable.SelectAllFootnotes method and then calling the SpssPivotTable.SetBottomMargin method.

SetForegroundColorAt Method

This method is deprecated in release 17.0 and obsolete for legacy tables in release 20 and higher. Use the SetTextColorAt method instead.

SetHAlignAt Method

Sets the horizontal alignment of the specified footnote.

Syntax

```
SpssFootnotes.SetHAlignAt(index,alignment)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Set the value of *alignment* to one of the following:

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

Note: This method is not available for legacy tables. You can set the horizontal alignment of all footnotes in a legacy table by selecting all footnotes with the SpssPivotTable.SelectAllFootnotes method and then calling the SpssPivotTable.SetHAlign method.

SetLeftMarginAt Method

Sets the left margin for the specified footnote.

Syntax

```
SpssFootnotes.SetLeftMarginAt(index,margin)
```

Parameters

index	Index of the footnote.
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables. You can set the left margin of the footnote area in a legacy table by selecting all footnotes with the SpssPivotTable.SelectAllFootnotes method and then calling the SpssPivotTable.SetLeftMargin method.

SetRightMarginAt Method

Sets the right margin of specified footnote.

Syntax

```
SpssFootnotes.SetRightMarginAt(index,margin)
```

Parameters

index	Index of the footnote
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables. You can set the right margin of the footnote area in a legacy table by selecting all footnotes with the SpssPivotTable.SelectAllFootnotes method and then calling the SpssPivotTable.SetRightMargin method.

SetTextColorAt Method

Sets the color of the text of the specified footnote.

Syntax

```
SpssFootnotes.SetTextColorAt(index,color)
```

Parameters

index	Index of the footnote
color	Integer representation of the color

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

For information on setting color values, see Appendix A on p. 201.

SetTextFontAt Method

Sets the font of the text in the specified footnote.

Syntax

```
SpssFootnotes.SetTextFontAt(index,fontname)
```

Parameters

index	Index of the footnote
fontname	Name of the font family, as a string. Available fonts are accessed from Format>Cell Properties in the pivot table editor.

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

SetTextHiddenAt Method

Sets the hidden effect of the specified footnote.

Syntax

```
SpssFootnotes.SetTextHiddenAt(index,boolean)
```

Parameters

index	Index of the footnote
boolean	True for hidden, False for not hidden

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

SetTextSizeAt Method

Sets the font size of the specified footnote.

Syntax

```
SpssFootnotes.SetTextSizeAt(index,size)
```

Parameters

index	Index of the footnote
size	Size in points (integer)

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

SetTextStyleAt Method

Sets the bold or italic style of the text for the specified footnote.

Syntax

```
SpssFootnotes.SetTextStyleAt(index,style)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Set the value of *style* to one of the following:

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

SetTextUnderlinedAt Method

Sets the underlined effect of the specified footnote.

Syntax

```
SpssFootnotes.SetTextUnderlinedAt(index,boolean)
```

Parameters

index	Index of the footnote
boolean	True for underlined, False for not underlined

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables. You can set the underlined effect of all footnotes in a legacy table by selecting all footnotes with the SpssPivotTable.SelectAllFootnotes method and then calling the SpssPivotTable.SetTextUnderlined method.

SetTopMarginAt Method

Sets the top margin of the specified footnote.

Syntax

```
SpssFootnotes.SetTopMarginAt(index,margin)
```

Parameters

index	Index of the footnote
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Note: This method is not available for legacy tables. You can set the top margin of the footnote area in a legacy table by selecting all footnotes with the SpssPivotTable.SelectAllFootnotes method and then calling the SpssPivotTable.SetTopMargin method.

SetVAlignAt Method

Sets the vertical alignment of the specified footnote.

Syntax

```
SpssFootnotes.SetVAlignAt(index,alignment)
```

Parameters

index	Index of the footnote

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

Set the value of *alignment* to one of the following:

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

Note: This method is not available for legacy tables. You can set the vertical alignment of all footnotes in a legacy table by selecting all footnotes with the SpssPivotTable.SelectAllFootnotes method and then calling the SpssPivotTable.SetVAlign method.

SetValueAt Method

Sets the value associated with the specified footnote.

Syntax

```
SpssFootnotes.SetValueAt(index,value)
```

Parameters

index	Index of the footnote
value	String

The index of a footnote does not correspond to the footnote marker but to the order of their references in the table.

SpssLabels Class

The `SpssLabels` class provides access to the row labels and column labels contained in a pivot table. You need to use this object to format column or row labels (for example, making all "Total" labels bold) or to change labels (for example, changing the "Column %", "Row %" or "Total %" label). Generally speaking, you need to get the specified column or row label in order to locate specific statistics in an `SpssDataCells` object.

The row and column labels are represented as 2-dimensional arrays, referred to as the **row labels array** and **column labels array**. The arrays contain all row and column labels for the pivot table, including hidden labels. The row labels array has the same number of rows as the data cells array and the column labels array has the same number of columns as the data cells array. Row indexes for the row labels and column indexes for the column labels respectively correspond to the row and column indexes for the data cells.

Column Labels Array

The following diagrams illustrate how the column labels array is indexed. Note that where you see only one label (such as the dimension name Statistics) in the pivot table, the label can be accessed in all cells corresponding to the categories under it. In the case of Statistics, you can access it using (0,0), (0,1), (0,2), (0,3), (0,4) or (0,5) and any change you make to one cell is reflected in all these cells.

Figure 8-1
Column labels (after Showing All)

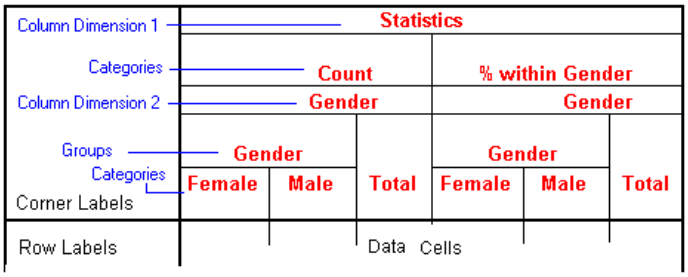


Figure 8-2
Column labels array indexing

Column dimension 1	Statistics (0,0)	Statistics (0,1)	Statistics (0,2)	Statistics (0,3)	Statistics (0,4)	Statistics (0,5)
Categories	Count (1,0)	Count (1,1)	Count (1,2)	% Within Gender (1,3)	% Within Gender (1,4)	% Within Gender (1,5)
Column dimension 2	Gender (2,0)	Gender (2,1)	Gender (2,2)	Gender (2,3)	Gender (2,4)	Gender (2,5)
Groups	Gender (3,0)	Gender (3,1)	(3,2)	Gender (3,3)	Gender (3,4)	(3,5)
Categories	Female (4,0)	Male (4,1)	Total (4,2)	Female (4,3)	Male (4,4)	Total (4,5)
Corner Labels						
RowLabels	Data Cells					

Each column dimension in the column labels array is represented by a set of **levels**. The first level is the dimension label, the last level contains the category labels, and all the levels in between (if any) contain group labels.

Row Labels Array

The following diagrams illustrate how the row labels array is indexed. Note that where you see only one label (such as the dimension name Statistics) in the pivot table, the label can be accessed in all cells corresponding to the categories under it. In the case of Statistics, you can access it using (0,0), (1,0), (2,0), (3,0), (4,0) and (5,0) and any change you make to one cell is reflected in all these cells.

Figure 8-3
Row labels (after showing all)

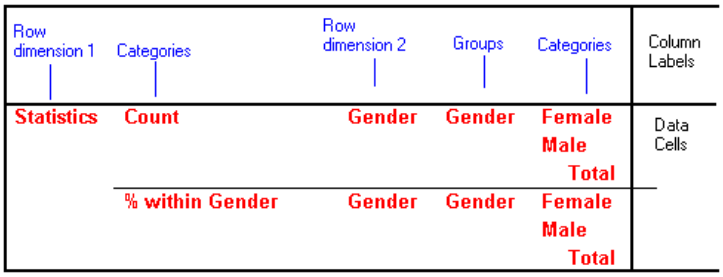


Figure 8-4
Row labels array indexing

Row dimension 1	Categories	Row dimension 2	Groups	Categories	Column Labels
Statistics (0,0)	Count (0,1)	Gender (0,2)	Gender (0,3)	Female (0,4)	Data Cells
Statistics (1,0)	Count (1,1)	Gender (1,2)	Gender (1,3)	Male (1,4)	
Statistics (2,0)	Count (2,1)	Gender (2,2)	(2,3)	Total (2,4)	
Statistics (3,0)	% Within Gender (3,1)	Gender (3,2)	Gender (3,3)	Female (3,4)	
Statistics (4,0)	% Within Gender (4,1)	Gender (4,2)	Gender (4,3)	Male (4,4)	
Statistics (5,0)	% Within Gender (5.1)	Gender (5,2)	(5,3)	Total (5,4)	

Each row dimension in the row labels array is represented by a set of **levels**. The first level is the dimension label, the last level contains the category labels, and all the levels in between (if any) contain group labels.

Notes

- To see all row and column labels in a pivot table, double-click on it and select View>Show All in the pivot table editor.
- Blank cells in the row label or column label arrays indicate that some categories (or subgroups) are not grouped.

Getting an SpssLabels Object

You get an `SpssLabels` object from the RowLabelArray or ColumnLabelArray method of an `SpssPivotTable` object, as in:

```
SpssLabels = SpssPivotTable.RowLabelArray()
```

Examples

This example assumes that `PivotTable` is an `SpssPivotTable` object, selects all row labels and bolds the text.

```
RowLabels = PivotTable.RowLabelArray()
for i in range(RowLabels.GetNumRows()):
   for j in range(1,RowLabels.GetNumColumns()):
      RowLabels.SetTextStyleAt(i,j,
         SpssClient.SpssTextStyleTypes.SpssTSBold)
```

This example assumes that `PivotTable` is an `SpssPivotTable` object, selects all column labels and bolds the text.

```
ColLabels = PivotTable.ColumnLabelArray()
for i in range(1,ColLabels.GetNumRows()):
   for j in range(ColLabels.GetNumColumns()):
      ColLabels.SetTextStyleAt(i,j,
         SpssClient.SpssTextStyleTypes.SpssTSBold)
```

BreakHere Method

Sets the break location for printing large pivot tables. The break occurs after a specified row or column label and only applies to the innermost row or column labels. Breaks are specified for a particular row or column label and do not apply to any repeated versions of the specified label.

Syntax

```
SpssLabels.BreakHere(index)
```

Parameters

index	For row labels, the index of the row (to break on) in the row labels array. For column labels, the index of the column (to break on) in the column labels array.

GetBackgroundColorAt Method

Returns the background color of the specified row/column label.

Syntax

```
SpssLabels.GetBackgroundColorAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Returns

The color is returned as an integer. For more information, see the topic Setting Color Values in Appendix A on p. 201.

GetBottomMarginAt Method

Returns the bottom margin of the specified row/column label. The unit is the point (1/72 inch).

Syntax

```
SpssLabels.GetBottomMarginAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetColumnLabelWidthAt Method

Returns the width of the column labels for the level containing the current label. The unit is the point (1/72 inch).

Syntax

```
SpssLabels.GetColumnLabelWidthAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetForegroundColorAt Method

This method is deprecated in release 17.0. Use the GetTextColorAt method instead.

GetHAlignAt Method

Returns the horizontal alignment of the specified row/column label.

Syntax

```
SpssLabels.GetHAlignAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Returns

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

GetLeftMarginAt Method

Returns the left margin of the specified row/column label. The unit is the point (1/72 inch).

Syntax

```
SpssLabels.GetLeftMarginAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetNumColumns Method

Returns the number of columns in the row/column labels object.

Syntax

```
SpssLabels.GetNumColumns()
```

GetNumRows Method

Returns the number of rows in the row/column labels object.

Syntax

```
SpssLabels.GetNumRows()
```

GetReferredFootnotesAt Method

Returns an `SpssFootnotes` object, which allows access to all the footnotes referred to by the specified label cell.

- The returned footnotes array is a subset of the array returned by the `FootnotesArray` method of the `SpssPivotTable` class. You can manipulate the subset using the same properties and methods, but the index of a footnote in this array is in no way related to the index of the same footnote when accessed from the pivot table.

Syntax

```
SpssFootnotes=SpssLabels.GetReferredFootnotesAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Example

This example gets the footnotes for the column label with row index 1 and column index 1 (in the column label array) and sets the text color and text style of the first footnote (index value 0) to red and bold respectively. It assumes that `PivotTable` is an `SpssPivotTable` object.

```
Labels = PivotTable.ColumnLabelArray()
Footnotes = Labels.GetReferredFootnotesAt(1,1)
Footnotes.SetTextStyleAt(0,SpssClient.SpssTextStyleTypes.SpssTSBold)
Footnotes.SetTextColorAt(0,255)
```

GetRightMarginAt Method

Returns the right margin of the specified row/column label. The unit is the point (1/72 inch).

Syntax

```
SpssLabels.GetRightMarginAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetRowLabelWidthAt Method

Returns the width of the row labels for the level containing the current label. The unit is the point (1/72 inch).

Syntax

```
SpssLabels.GetRowLabelWidthAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetTextColorAt Method

Returns the color of the text in the specified row/column label.

Syntax

```
SpssLabels.GetTextColorAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Returns

The color is returned as an integer. For more information, see the topic Setting Color Values in Appendix A on p. 201.

GetTextFontAt Method

Returns the font of the text in the specified row/column label, as a string.

Syntax

```
SpssLabels.GetTextFontAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetTextHiddenAt Method

Returns the hidden effect of the text for the specified row/column label. The result is a Boolean.

Syntax

```
SpssLabels.GetTextHiddenAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Returns

True	Hidden
False	Not hidden

GetTextSizeAt Method

Returns the font size of the text for the specified row/column label.

Syntax

```
SpssLabels.GetTextSizeAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetTextStyleAt Method

Returns the bold or italic style of the text in the specified row/column label.

Syntax

```
SpssLabels.GetTextStyleAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Returns

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

GetTextUnderlinedAt Method

Returns the underlined effect of the text in the specified row/column label. The result is a Boolean.

Syntax

```
SpssLabels.GetTextUnderlinedAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Returns

True	Underlined
False	Not underlined

GetTextWidthAt Method

Returns the width of the text in the indexed row/column label, as if the text were unwrapped. The unit is the point (1/72 inch).

Syntax

```
SpssLabels.GetTextWidthAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetTopMarginAt Method

Returns the top margin of the specified row/column label. The unit is the point (1/72 inch).

Syntax

```
SpssLabels.GetTopMarginAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

GetVAlignAt Method

Returns the vertical alignment of the specified row/column label.

Syntax

```
SpssLabels.GetVAlignAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Returns

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

GetValueAt Method

Returns the value of the specified row/column label, as a unicode string.

Syntax

```
SpssLabels.GetValueAt(row,column,includeFootnotes)
```

Parameters

row	Row index in the label array
column	Column index in the label array
includeFootnotes	Optional Boolean specifying whether to include footnote markers in the returned value. The default is *True*.

HideAllLabelsInDimensionAt Method

Hides all labels in the same dimension as the specified label.

Syntax

```
SpssLabels.HideAllLabelsInDimensionAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

HideFootnotesAt Method

Hides all footnotes referenced by the specified row/column label.

Syntax

```
SpssLabels.HideFootnotesAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

HideLabelsInDimensionAt Method

Hides all instances of the specified label within the dimension containing the label.

Syntax

```
SpssLabels.HideLabelsInDimensionAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

HideLabelsWithDataAt Method

Hides all instances of the specified label and all data associated with those instances. Only applies to the innermost labels.

Syntax

```
SpssLabels.HideLabelsWithDataAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

InsertBefore Method

Moves the selected column(s) or rows before a specified column or row. (The data are moved together with the labels.)

- The selected and specified labels must be in the same dimension and must be either category or group labels. (That is, they cannot be dimension names.)
- If no labels in the same dimension are selected, the method is ignored.

Syntax

```
SpssLabels.InsertBefore(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

InsertNewAfter Method

Inserts a new row or column, after the specified row or column, in the pivot table. To insert a new row, use this method with the row labels array. To insert a new column, use this method with the column labels array. The particular row or column is specified by providing the indexes of its

associated label in the labels array. For example, to insert a column after the column whose label is “Mean”, you provide the indexes of the label “Mean” in the column labels array.

- A plus sign “+” is inserted in the first cell of the new row or column to prevent the row or column from being automatically hidden because it is empty.
- In a table with nested or layered dimensions, a column or row is inserted at every corresponding dimension level.

Syntax

```
SpssLabels.InsertNewAfter(row,column,label=None)
```

Parameters

row	Row index in the label array
column	Column index in the label array
label	An optional label for the new row or column. If omitted, a plus sign “+” is used for the label.

InsertNewBefore Method

Inserts a new row or column, before the specified row or column, in the pivot table. To insert a new row, use this method with the row labels array. To insert a new column, use this method with the column labels array. The particular row or column is specified by providing the indexes of its associated label in the labels array. For example, to insert a column before the column whose label is “Mean”, you provide the indexes of the label “Mean” in the column labels array.

- A plus sign “+” is inserted in the first cell of the new row or column to prevent the row or column from being automatically hidden because it is empty.
- In a table with nested or layered dimensions, a column or row is inserted at every corresponding dimension level.

Syntax

```
SpssLabels.InsertNewBefore(row,column,label=None)
```

Parameters

row	Row index in the label array
column	Column index in the label array
label	An optional label for the new row or column. If omitted, a plus sign “+” is used for the label.

InsertNewFootnoteAt Method

Inserts a new footnote for the specified row/column label.

Syntax

```
index=SpssLabels.InsertNewFootnoteAt(row,column,string)
```

Parameters

row	Row index in the label array
column	Column index in the label array
string	New footnote text

Return Value

index	Integer (to be used to insert the footnote in other cells if it is a shared footnote)

Example

This example inserts a footnote for the column label with row index 1 and column index 1 (in the column label array), and it also inserts a shared footnote for the column label with row index 1 and column index 2. It assumes that `PivotTable` is an `SpssPivotTable` object.

```
Labels = PivotTable.ColumnLabelArray()
index = Labels.InsertNewFootnoteAt(1,1,"My footnote")
Labels.InsertSharedFootnoteAt(1,2,index)
```

InsertSharedFootnoteAt Method

Inserts a shared footnote (a footnote that applies to multiple labels and/or data cells) for the specified row/column label.

Syntax

```
SpssLabels.InsertSharedFootnoteAt(row,column,index)
```

Parameters

row	Row index in the label array.
column	Column index in the label array
index	The index (in the footnote array) of the desired footnote.

Note: When inserting a shared footnote along with a new footnote created with the `InsertNewFootnoteAt` method, you can use the index value returned by the `InsertNewFootnoteAt` method. For more information, see the topic InsertNewFootnoteAt Method on p. 163.

KeepTogether Method

Prevents a page break from occurring within the specified range when printing large pivot tables.

Syntax

```
SpssLabels.KeepTogether(from,to)
```

Parameters

from	For row labels, the index of the starting row in the row labels array. For column labels, the index of the starting column in the column labels array.
to	For row labels, the index of the ending row in the row labels array. For column labels, the index of the ending column in the column labels array.

RemoveBreakHere Method

Clears a previously set break location.

Syntax

```
SpssLabels.RemoveBreakHere(index)
```

Parameters

index	For row labels, the index of the row (in the row labels array) for which the break was set. For column labels, the index of the column (in the column labels array) for which the break was set.

RemoveKeepTogether Method

Negates the effects of a previous call to `KeepTogether`.

Syntax

```
SpssLabels.RemoveKeepTogether(from,to)
```

Parameters

from	For row labels, the index of the starting row in the row labels array. For column labels, the index of the starting column in the column labels array.
to	For row labels, the index of the ending row in the row labels array. For column labels, the index of the ending column in the column labels array.

SelectDataUnderLabelAt Method

Selects the data under the indexed label (but not the label), in addition to whatever has been selected previously.

Syntax

```
SpssLabels.SelectDataUnderLabelAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

SelectLabelAt Method

Selects the indexed label, in addition to previously selected elements.

Syntax

```
SpssLabels.SelectLabelAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

SelectLabelDataAt Method

Selects the indexed label and all corresponding data in the category, in addition to whatever has been selected previously.

Syntax

```
SpssLabels.SelectLabelDataAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

SelectReferredFootnotesAt Method

Selects all the footnotes referenced by the specified label cell, in addition to previously selected elements.

Syntax

```
SpssLabels.SelectReferredFootnotesAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Note: This method is not available for legacy tables. To modify footnotes associated with a particular label in a legacy table, use the GetReferredFootnotesAt method to get an `SpssFootnotes` object containing the footnotes. You can then use the methods of the `SpssFootnotes` object to make the desired modifications.

SetBackgroundColorAt Method

Sets the background color of the specified row/column label.

Syntax

```
SpssLabels.SetBackgroundColorAt(row,column,color)
```

Parameters

row	Row index in the label array
column	Column index in the label array
color	Integer representation of the color

For information on setting color values, see Appendix A on p. 201.

SetBottomMarginAt Method

Sets the bottom margin of the specified row/column label.

Syntax

```
SpssLabels.SetBottomMarginAt(row,column,margin)
```

Parameters

row	Row index in the label array
column	Column index in the label array
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetColumnLabelWidthAt Method

Sets the width of the specified column label. This property will also set the widths of all column labels and data cells that are in the same column of the table as the specified label. To set column widths independently, use the `ReSizeColumn` method in the `SpssDataCells` class.

Syntax

```
SpssLabels.SetColumnLabelWidthAt(row,column,width)
```

Parameters

row	Row index in the label array
column	Column index in the label array
width	An integer. The unit is the point (1/72 inch).

SetForegroundColorAt Method

This method is deprecated in release 17.0. Use the SetTextColorAt method instead.

SetHAlignAt Method

Sets the horizontal alignment of the specified row/column label.

Syntax

```
SpssLabels.SetHAlignAt(row,column,alignment)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Set the value of *alignment* to one of the following:

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

SetLeftMarginAt Method

Sets the left margin of the specified row/column label.

Syntax

```
SpssLabels.SetLeftMarginAt(row,column,margin)
```

Parameters

row	Row index in the label array
column	Column index in the label array
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetRightMarginAt Method

Sets the right margin of the specified row/column label.

Syntax

```
SpssLabels.SetRightMarginAt(row,column,margin)
```

Parameters

row	Row index in the label array
column	Column index in the label array
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetRowLabelWidthAt Method

Sets the width of the specified row label. This method will also set the widths of all row labels that are in the same column of the row label array as the specified label.

Syntax

```
SpssLabels.SetRowLabelWidthAt(row,column,width)
```

Parameters

row	Row index in the label array
column	Column index in the label array
width	An integer. The unit is the point (1/72 inch).

SetTextColorAt Method

Sets the color of the text in the specified row/column label.

Syntax

```
SpssLabels.SetTextColorAt(row,column,color)
```

Parameters

row	Row index in the label array
column	Column index in the label array
color	Integer representation of the color

For information on setting color values, see Appendix A on p. 201.

SetTextFontAt Method

Sets the font of the text in the specified row/column label.

Syntax

```
SpssLabels.SetTextFontAt(row,column,fontname)
```

Parameters

row	Row index in the label array
column	Column index in the label array
fontname	Name of the font family, as a string. Available fonts are accessed from Format>Cell Properties in the pivot table editor.

SetTextHiddenAt Method

Sets the hidden effect of the text for the specified row/column label.

Syntax

```
SpssLabels.SetTextHiddenAt(row,column,boolean)
```

Parameters

row	Row index in the label array
column	Column index in the label array
boolean	True for hidden, False for not hidden. True hides the cell associated with the label.

SetTextSizeAt Method

Sets the font size of the text for the specified row/column label.

Syntax

```
SpssLabels.SetTextSizeAt(row,column,size)
```

Parameters

row	Row index in the label array
column	Column index in the label array
size	Size in points (integer)

SetTextStyleAt Method

Sets the bold or italic style of the text in the specified row/column label.

Syntax

```
SpssLabels.SetTextStyleAt(row,column,style)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Set the value of *style* to one of the following:

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

SetTextUnderlinedAt Method

Sets the underlined effect of the text in the specified row/column label.

Syntax

```
SpssLabels.SetTextUnderlinedAt(row,column,boolean)
```

Parameters

row	Row index in the label array
column	Column index in the label array
boolean	True for underlined, False for not underlined.

SetTopMarginAt Method

Sets the top margin of the specified row/column label.

Syntax

```
SpssLabels.SetTopMarginAt(row,column,margin)
```

Parameters

row	Row index in the label array
column	Column index in the label array
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetVAlignAt Method

Sets the vertical alignment of the specified row/column label.

Syntax

```
SpssLabels.SetVAlignAt(row,column,alignment)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Set the value of *alignment* to one of the following:

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

SetValueAt Method

Sets the value of the specified row/column label.

Syntax

```
SpssLabels.SetValueAt(row,column,value)
```

Parameters

row	Row index in the label array
column	Column index in the label array
value	String

ShowAllLabelsAndDataInDimensionAt Method

Shows all labels and data in the dimension that contains the specified label.

Syntax

```
SpssLabels.ShowAllLabelsAndDataInDimensionAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

ShowAllLabelsInDimensionAt Method

Shows all labels in the dimension that contains the specified label.

Syntax

```
SpssLabels.ShowAllLabelsInDimensionAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

ShowFootnotesAt Method

Displays all the footnotes referenced by the specified row/column label.

Syntax

```
SpssLabels.ShowFootnotesAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

ShowHiddenDimensionLabelAt Method

Shows the hidden dimension label for the dimension that contains the specified label.

Syntax

```
SpssLabels.ShowHiddenDimensionLabelAt(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

Swap Method

Swaps the selected column(s) or rows with a specified column or row. The data are swapped together with the labels.

- The selected and specified labels must be in the same dimension and must be either category or group labels. (That is, they cannot be dimension names.)
- If no labels in the same dimenison are selected, the method is ignored.

Syntax

```
SpssLabels.Swap(row,column)
```

Parameters

row	Row index in the label array
column	Column index in the label array

SpssLayerLabels Class

The `SpssLayerLabels` class provides access to the layer labels contained in a pivot table. You need to use this object to format or change layer labels.

Layer Labels Array

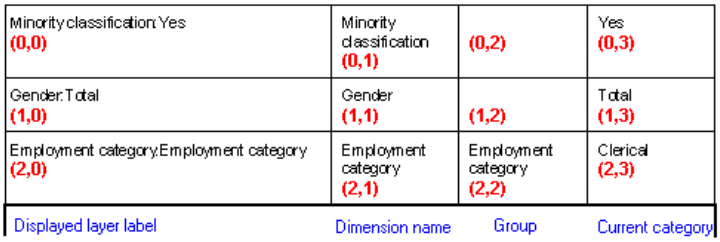
The layer labels are represented as a 2-dimensional array, referred to as the **layer labels array**. Each row corresponds to the current category of one layer dimension. The first column is a concatenation of all the labels in the row, the second column is the dimension name, and the last column is the category label. Any columns between the second and last are group labels. You access other categories of the dimension from the `SpssDimension` object.

Figure 8-5
Layer labels displayed in a pivot table

Minority classification: Yes
Gender: Total
Employment category: Employment category Clerical

		Educational level (years)						
		8	12	14	15	16	17	18
Statistics	Count	7	45	1	25	6	2	1

Figure 8-6
Layer labels array indexing



Each layer dimension in the layer labels array is represented by a set of **levels**. The first level is the dimension name, the last level contains the current category label, and all the levels in between (if any) contain group labels. Blank cells in the layer labels array indicate that there are different numbers of levels in different layer dimensions.

Getting an SpssLayerLabels Object

You get an `SpssLayerLabels` object from the LayerLabelArray method of an `SpssPivotTable` object, as in:

```
SpssLayerLabels = SpssPivotTable.LayerLabelArray()
```

Example

This example assumes that `PivotTable` is an `SpssPivotTable` object and sets the background color of the label for the first layer dimension to yellow.

```
LayerLabels = PivotTable.LayerLabelArray()
LayerLabels.SetBackgroundColorAt(0,65535)
```

GetBackgroundColorAt Method

Returns the background color of the specified layer label.

Syntax

```
SpssLayerLabels.GetBackgroundColorAt(index)
```

Parameters

index	Index of the layer dimension

Returns

The color is returned as an integer. For more information, see the topic Setting Color Values in Appendix A on p. 201.

GetBottomMarginAt Method

Returns the bottom margin of the specified layer label. The unit is the point (1/72 inch).

Syntax

```
SpssLayerLabels.GetBottomMarginAt(index)
```

Parameters

index	Index of the layer dimension

GetForegroundColorAt Method

This method is deprecated in release 17.0. Use the GetTextColorAt method instead.

GetHAlignAt Method

Returns the horizontal alignment of the specified layer label.

Syntax

```
SpssLayerLabels.GetHAlignAt(index)
```

Parameters

index	Index of the layer dimension

Returns

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

GetLeftMarginAt Method

Returns the left margin of the label for the specified layer dimension. The unit is the point (1/72 inch).

Syntax

```
SpssLayerLabels.GetLeftMarginAt(index)
```

Parameters

index	Index of the layer dimension

GetNumDimensions Method

Returns the number of labels in the Layers (equal to the number of dimensions in the layers).

Syntax

```
SpssLayerLabels.GetNumDimensions()
```

GetNumLabelsWide Method

Returns the width (number of columns) of the Layer Labels array. The width equals the maximum depth of layer dimensions plus one.

Syntax

```
SpssLayerLabels.GetNumLabelsWide()
```

GetRightMarginAt Method

Returns the right margin of the label for the specified layer dimension. The unit is the point (1/72 inch).

Syntax

```
SpssLayerLabels.GetRightMarginAt(index)
```

Parameters

index	Index of the layer dimension

GetTextColorAt Method

Returns the color of the text in the label of the specified layer dimension.

Syntax

```
SpssLayerLabels.GetTextColorAt(index)
```

Parameters

index	Index of the layer dimension

Returns

The color is returned as an integer. For more information, see the topic Setting Color Values in Appendix A on p. 201.

GetTextFontAt Method

Returns the font of the text in the specified layer dimension, as a string.

Syntax

```
SpssLayerLabels.GetTextFontAt(index)
```

Parameters

index	Index of the layer dimension

GetTextHiddenAt Method

Returns the hidden effect of the specified layer dimension. The result is a Boolean.

Syntax

```
SpssLayerLabels.GetTextHiddenAt(index)
```

Parameters

index	Index of the layer dimension

Returns

True	Hidden
False	Not hidden

GetTextSizeAt Method

Returns the font size of the label for the specified layer dimension.

Syntax

```
SpssLayerLabels.GetTextSizeAt(index)
```

Parameters

index	Index of the layer dimension

GetTextStyleAt Method

Returns the bold or italic style of the text for the specified layer dimension.

Syntax

```
SpssLayerLabels.GetTextStyleAt(index)
```

Parameters

index	Index of the layer dimension

Returns

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

GetTextUnderlinedAt Method

Returns the underlined effect of the specified layer dimension. The result is a Boolean.

Syntax

```
SpssLayerLabels.GetTextUnderlinedAt(index)
```

Parameters

index	Index of the layer dimension

Returns

True	Underlined
False	Not underlined

GetTopMarginAt Method

Returns the top margin of the label for the specified layer dimension. The unit is the point (1/72 inch).

Syntax

```
SpssLayerLabels.GetTopMarginAt(index)
```

Parameters

index	Index of the layer dimension

GetVAlignAt Method

Returns the vertical alignment of the label for the specified layer dimension.

Syntax

```
SpssLayerLabels.GetVAlignAt(index)
```

Parameters

index	Index of the layer dimension

Returns

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

GetValueAt Method

Returns the value associated with the specified layer and column from the layer labels array, as a unicode string.

Syntax

```
SpssLayerLabels.GetValueAt(index,column)
```

Parameters

index	Index of the layer dimension
column	Column index of the cell in the layer labels array

HideFootnotesAt Method

Hides all footnotes referenced by the specified layer label.

Syntax

```
SpssLayerLabels.HideFootnotesAt(index)
```

Parameters

index	Index of the layer dimension

InsertNewFootnoteAt Method

Inserts a new footnote for the specified layer dimension.

Syntax

```
index=SpssLayerLabels.InsertNewFootnoteAt(index,string)
```

Parameters

index	Index of the layer dimension
string	New footnote text

Return Value

index	Integer (to be used to insert the footnote in other cells if it is a shared footnote)

Example

This example inserts a footnote for the layer dimension with index 0 (in the layer label array), and then inserts a shared footnote for the layer dimension with index 1. It assumes that `PivotTable` is an `SpssPivotTable` object.

```
Labels = PivotTable.LayerLabelArray()
index = Labels.InsertNewFootnoteAt(0,"My footnote")
Labels.InsertSharedFootnoteAt(1,index)
```

InsertSharedFootnoteAt Method

Inserts a shared footnote (a footnote that applies to multiple labels and/or data cells) for the specified layer dimension.

Syntax

```
SpssLayerLabels.InsertSharedFootnoteAt(dim,index)
```

Parameters

dim	Index of the layer dimension
index	The index (in the footnote array) of the desired footnote.

Note: When inserting a shared footnote along with a new footnote created with the `InsertNewFootnoteAt` method, you can use the index value returned by the `InsertNewFootnoteAt` method. For more information, see the topic InsertNewFootnoteAt Method on p. 181.

SelectLabelAt Method

Selects the specified label, in addition to previously selected elements.

Syntax

```
SpssLayerLabels.SelectLabelAt(index)
```

Parameters

index	Index of the layer dimension

SelectReferredFootnotesAt Method

Selects all the footnotes referenced by the current layer label, in addition to previously selected elements.

Syntax

```
SpssLayerLabels.SelectReferredFootnotesAt(index)
```

Parameters

index	Index of the layer dimension

Note: This method is not available for legacy tables.

SetBackgroundColorAt Method

Sets the background color of the specified layer label.

Syntax

```
SpssLayerLabels.SetBackgroundColorAt(index,color)
```

Parameters

index	Index of the layer dimension
color	Integer representation of the color

For information on setting color values, see Appendix A on p. 201.

SetBottomMarginAt Method

Sets the bottom margin of the specified layer label.

Syntax

```
SpssLayerLabels.SetBottomMarginAt(index,margin)
```

Parameters

index	Index of the layer dimension
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetForegroundColorAt Method

This method is deprecated in release 17.0. Use the SetTextColorAt method instead.

SetHAlignAt Method

Sets the horizontal alignment of the specified layer label.

Syntax

```
SpssLayerLabels.SetHAlignAt(index,alignment)
```

Parameters

index	Index of the layer dimension

Set the value of *alignment* to one of the following:

SpssClient.SpssHAlignTypes.SpssHAlLeft	Left
SpssClient.SpssHAlignTypes.SpssHAlRight	Right
SpssClient.SpssHAlignTypes.SpssHAlCenter	Center
SpssClient.SpssHAlignTypes.SpssHAlMixed	Mixed
SpssClient.SpssHAlignTypes.SpssHAlDecimal	Decimal

SetLeftMarginAt Method

Sets the left margin of the label for the specified layer dimension.

Syntax

```
SpssLayerLabels.SetLeftMarginAt(index,margin)
```

Parameters

index	Index of the layer dimension
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetRightMarginAt Method

Sets the right margin of the label for the specified layer dimension.

Syntax

```
SpssLayerLabels.SetRightMarginAt(index,margin)
```

Parameters

index	Index of the layer dimension
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetTextColorAt Method

Sets the color of the text in the label of the specified layer dimension.

Syntax

```
SpssLayerLabels.SetTextColorAt(index,color)
```

Parameters

index	Index of the layer dimension
color	Integer representation of the color

For information on setting color values, see Appendix A on p. 201.

SetTextFontAt Method

Sets the font of the text in the specified layer dimension.

Syntax

```
SpssLayerLabels.SetTextFontAt(index,fontname)
```

Parameters

index	Index of the layer dimension
fontname	Name of the font family, as a string. Available fonts are accessed from Format>Cell Properties in the pivot table editor.

SetTextHiddenAt Method

Sets the hidden effect of the label for the specified layer dimension.

Syntax

```
SpssLayerLabels.SetTextHiddenAt(index,boolean)
```

Parameters

index	Index of the layer dimension
boolean	True for hidden, False for not hidden

SetTextSizeAt Method

Sets the font size of the label of the specified layer dimension.

Syntax

```
SpssLayerLabels.SetTextSizeAt(index,size)
```

Parameters

index	Index of the layer dimension
size	Size in points (integer)

SetTextStyleAt Method

Sets the bold or italic style of the text for the specified layer dimension.

Syntax

```
SpssLayerLabels.SetTextStyleAt(index,style)
```

Parameters

index	Index of the layer dimension

Set the value of *style* to one of the following:

SpssClient.SpssTextStyleTypes.SpssTSRegular	Regular
SpssClient.SpssTextStyleTypes.SpssTSItalic	Italic
SpssClient.SpssTextStyleTypes.SpssTSBold	Bold
SpssClient.SpssTextStyleTypes.SpssTSBoldItalic	Bold Italic

SetTextUnderlinedAt Method

Sets the underlined effect of the label for the specified layer dimension.

Syntax

```
SpssLayerLabels.SetTextUnderlinedAt(index,boolean)
```

Parameters

index	Index of the layer dimension
boolean	True for underlined, False for not underlined.

SetTopMarginAt Method

Sets the top margin of the label for the specified layer dimension.

Syntax

```
SpssLayerLabels.SetTopMarginAt(index,margin)
```

Parameters

index	Index of the layer dimension
margin	An integer. The unit is the point (1/72 inch). The maximum value is 36.

SetVAlignAt Method

Sets the vertical alignment of the label for the specified layer dimension.

Syntax

```
SpssLayerLabels.SetVAlignAt(index,alignment)
```

Parameters

index	Index of the layer dimension

Set the value of *alignment* to one of the following:

SpssClient.SpssVAlignTypes.SpssVAlTop	Top
SpssClient.SpssVAlignTypes.SpssVAlBottom	Bottom
SpssClient.SpssVAlignTypes.SpssVAlCenter	Center

ShowFootnotesAt Method

Displays all the footnotes referenced by the label of the specified layer dimension.

Syntax

```
SpssLayerLabels.ShowFootnotesAt(index)
```

Parameters

index	Index of the layer dimension

SpssPivotMgr Class

The `SpssPivotMgr` class provides access to the row, column, and layer dimensions contained in a pivot table. By pivoting row dimensions to column dimensions, or column dimensions to layer dimensions, you can find the best way to present the results of the statistical analyses.

You get an `SpssPivotMgr` object from the PivotManager method of an `SpssPivotTable` object, as in:

```
SpssPivotMgr = SpssPivotTable.PivotManager()
```

For an example of using the `SpssPivotMgr` class, see SpssDimension Class.

GetColumnDimension Method

Returns an `SpssDimension` object for the specified column dimension.

Syntax

```
SpssDimension=SpssPivotMgr.GetColumnDimension(index)
```

Parameters

index	Index of the column dimension, where the value 0 refers to the innermost column dimension.

GetLayerDimension Method

Returns an `SpssDimension` object for the specified layer dimension.

Syntax

```
SpssDimension=SpssPivotMgr.LayerDimension(index)
```

Parameters

index	Index of the layer dimension

GetNumColumnDimensions Method

Returns the number of column dimensions.

Syntax

```
SpssPivotMgr.GetNumColumnDimensions()
```

GetNumLayerDimensions Method

Returns the number of layer dimensions.

Syntax

```
SpssPivotMgr.GetNumLayerDimensions()
```

GetNumRowDimensions Method

Returns the number of row dimensions.

Syntax

```
SpssPivotMgr.GetNumRowDimensions()
```

GetRowDimension Method

Returns an `SpssDimension` object for the specified row dimension.

Syntax

```
SpssDimension=SpssPivotMgr.GetRowDimension(index)
```

Parameters

index	Index of the row dimension, where the value 0 refers to the innermost row dimension.

MoveLayersToColumns Method

Moves all dimensions in layers to the outermost columns.

Syntax

```
SpssPivotMgr.MoveLayersToColumns()
```

MoveLayersToRows Method

Moves all dimensions in layers to the outermost rows.

Syntax

```
SpssPivotMgr.MoveLayersToRows()
```

TransposeRowsWithColumns Method

Moves all dimensions in the rows to the columns and moves all dimensions in the columns to the rows.

Syntax

```
SpssPivotMgr.TransposeRowsWithColumns()
```

Chapter
9

Managing Remote Servers

SpssServerConf Class

The SpssServerConf class represents the configuration information for a server machine (may be an instance of IBM® SPSS® Statistics Server or the local computer). From the SpssClient object you can get an SpssServerConf object for the current server, the default server, the local computer, or you can get a list of SpssServerConf objects for all configured servers (includes the local computer).

Example: Connecting to a Server

```
import SpssClient
SpssClient.StartClient()
SpssServerConf = SpssClient.CreateNewServer("myservername",3016,"")
SpssServerConf.Connect("","myuserID","mypassword")
SpssClient.StopClient()
```

- The CreateNewServer method from the SpssClient class creates a new server configuration object for a server with a specified name (or IP address) on a specified port. It returns an SpssServerConf object.
- The Connect method of an SpssServerConf object establishes a connection to the server using the specified domain, user ID, and password.

Example: Configuring a New Server and Saving the Configuration

```
import SpssClient
SpssClient.StartClient()
ServerConfList = SpssClient.GetConfiguredServers()
SpssServerConf = SpssClient.CreateNewServer("myservername",3016,"")
ServerConfList.Add(SpssServerConf)
SpssServerConf = ServerConfList.GetItemAt(ServerConfList.Size()-1)
SpssServerConf.SetUserId("myuserID")
SpssServerConf.SetPassword("mypassword")
SpssServerConf.SetUserDomain("mydomain")
SpssServerConf.SetPasswordSaved(True)
SpssClient.SaveServers()
SpssClient.StopClient()
```

- SpssClient.GetConfiguredServers() gets an SpssServerConfList object that allows you to manage the list of configured servers.
- The CreateNewServer method from the SpssClient class creates a new server configuration object. The variable *SpssServerConf* is an SpssServerConf object.
- To add a new server configuration to the list, you use the Add method of the SpssServerConfList object.
- The user ID, password, and domain are set using the SetUserId, SetPassword, and SetUserDomain methods of the SpssServerConf object. The SetPasswordSaved method specifies that the password is to be saved for future use.

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- The `SaveServers` method from the `SpssClient` class saves all server configurations so that they are available in future sessions.

Example: Connecting to a Server Using a Saved Configuration

```
import SpssClient
SpssClient.StartClient()
ServerConfList = SpssClient.GetConfiguredServers()
for i in range(ServerConfList.Size()):
    server = ServerConfList.GetItemAt(i)
    if server.GetServerName()=="myservername":
       server.ConnectWithSavedPassword()
SpssClient.StopClient()
```

- `SpssClient.GetConfiguredServers()` gets an `SpssServerConfList` object that provides access to the list of configured servers.
- The `GetItemAt` method of an `SpssServerConfList` object returns the `SpssServerConf` object at the specified index. Index values start from 0 and represent the order in which the servers were added to the list.
- The `ConnectWithSavedPassword` method uses the connection information (domain, user ID, and password) to connect to the server.

Connect Method

Attempts to connect to the associated instance of IBM® SPSS® Statistics Server using the provided domain, user ID, and password. Any existing connection to an instance of SPSS Statistics Server is terminated.

Note: This method is not available when called from a Python program in distributed mode (Python programs make use of the interface exposed by the Python `spss` module).

Syntax

```
SpssServerConf.Connect(domain,userID,password)
```

Parameters

domain	A string specifying the domain of the user ID. Enter a blank string if the domain is not required.
userID	A string specifying the user ID.
password	A string specifying the password.

ConnectWithSavedPassword Method

Attempts to connect to the associated instance of IBM® SPSS® Statistics Server using the stored user domain, user ID, and password.

Note: This method is not available when called from a Python program in distributed mode (Python programs make use of the interface exposed by the Python `spss` module).

Syntax

```
SpssServerConf.ConnectWithSavedPassword()
```

Disconnect Method

Disconnects from the associated instance of IBM® SPSS® Statistics Server.

- The method has no effect when called on the local server.
- After calling the `Disconnect` method, you must connect to another server before calling other methods in the `SpssClient` module.
- It is not necessary to disconnect before connecting to a new server.

Note: This method is not available when called from a Python program in distributed mode (Python programs make use of the interface exposed by the Python `spss` module).

Syntax

```
SpssServerConf.Disconnect()
```

GetDescription Method

Returns the description text for the associated server.

Syntax

```
SpssServerConf.GetDescription()
```

GetServerName Method

Returns the machine name or IP address for the associated instance of IBM® SPSS® Statistics Server.

Syntax

```
SpssServerConf.GetServerName()
```

GetServerPort Method

Returns the port number for the associated instance of IBM® SPSS® Statistics Server.

Syntax

```
SpssServerConf.GetServerPort()
```

GetUserDomain Method

Returns the domain for the current user ID.

Syntax

```
SpssServerConf.GetUserDomain()
```

GetUserId Method

Returns the user ID if it is saved as part of the associated server configuration.

Syntax

```
SpssServerConf.GetUserId()
```

GetUseSSL Method

Indicates if SSL (**Secure Sockets Layer**) is in use for the associated instance of IBM® SPSS® Statistics Server. SSL is a commonly used protocol for managing the security of message transmission on the Internet. The result is Boolean—*True* if SSL is in use, *False* otherwise.

Syntax

```
SpssServerConf.GetUseSSL()
```

IsDefaultServer Method

Indicates whether the associated instance of IBM® SPSS® Statistics Server is set as the default server. The result is Boolean—*True* if this is the default server, *False* otherwise.

Syntax

```
SpssServerConf.IsDefaultServer()
```

IsEqualTo Method

Indicates if this server configuration object is the same object as a specified server configuration object. The result is Boolean—*True* if the two objects are identical, *False* otherwise.

Syntax

```
SpssServerConf.IsEqualTo(serverConf)
```

Parameters

serverConf	An `SpssServerConf` object

IsLocalServer Method

Indicates whether the associated instance of IBM® SPSS® Statistics Server represents the local server. The result is Boolean—*True* if this server is the local server, *False* otherwise.

Syntax

```
SpssServerConf.IsLocalServer()
```

IsPasswordSaved Method

Indicates whether the password is saved in the server configuration. The result is Boolean—*True* if the password is saved, *False* otherwise.

Syntax

```
SpssServerConf.IsPasswordSaved()
```

SetDefaultServer Method

Specifies whether the associated instance of IBM® SPSS® Statistics Server is set as the default server.

Syntax

```
SpssServerConf.SetDefaultServer(defaultServerFlag)
```

Parameters

defaultServerFlag	True to set as the default server, False otherwise.

SetDescription Method

Sets the description text for the associated server configuration.

Syntax

```
SpssServerConf.SetDescription(description)
```

SetPassword Method

Sets the password to be used by this server configuration.

Syntax

```
SpssServerConf.SetPassword(password)
```

SetPasswordSaved Method

Specifies whether the password is saved in the server configuration.

Syntax

```
SpssServerConf.SetPasswordSaved(savePassword)
```

Parameters

savePassword	True if the password is to be saved for future use, False otherwise.

SetServerName Method

Sets the machine name or IP address for the associated instance of IBM® SPSS® Statistics Server.

Syntax

```
SpssServerConf.SetServerName(serverName)
```

SetServerPort Method

Sets the port number for the associated instance of IBM® SPSS® Statistics Server.

Syntax

```
SpssServerConf.SetServerPort(port)
```

Parameters

port	An integer

SetUserDomain Method

Sets the domain for the current user ID.

Syntax

```
SpssServerConf.SetUserDomain(domain)
```

domain	A string

SetUserId Method

Sets the user ID for the associated server configuration.

Syntax

```
SpssServerConf.SetUserId(userId)
```

SetUseSSL Method

Specifies the setting for using SSL (**Secure Sockets Layer**) with the associated instance of IBM® SPSS® Statistics Server. SSL is a commonly used protocol for managing the security of message transmission on the Internet.

Syntax

```
SpssServerConf.SetUseSSL(useSSL)
```

Parameters

useSSL	True to use SSL, False otherwise.

SpssServerConfList Class

The `SpssServerConfList` class allows you to manage the list of configured servers, which includes the local computer. You obtain an `SpssServerConfList` object from the GetConfiguredServers method of the `SpssClient` class.

An `SpssServerConfList` object is not an iterable Python object. In order to iterate over the items in the list, use a `for` loop, as in:

```
for index in range(SpssServerConfList.Size()):
```

For an example that uses the `SpssServerConfList` class, see the example for the SpssServerConf class.

Add Method

Adds a server configuration to the list of available servers.

Syntax

```
SpssServerConfList.Add(serverConf)
```

Parameters

serverConf	An `SpssServerConf` object.

Server configuration objects are created with the `CreateNewServer` method in the `SpssClient` class.

Clear Method

Clears the list of server configurations, including the local computer.

Syntax

```
SpssServerConfList.Clear()
```

Contains Method

Indicates if the specified server configuration is a member of the list of available server configurations. The result is a Boolean—*True* if the specified server configuration object is equal to a member of the list of available server configuration objects, *False* otherwise.

Syntax

```
SpssServerConfList.Contains(serverConf)
```

Parameters

serverConf	An `SpssServerConf` object

GetItemAt Method

Returns an `SpssServerConf` object corresponding to the server configuration with the specified index. The index corresponds to the order in which the server configurations were created.

Syntax

```
SpssServerConf=SpssServerConfList.GetItemAt(index)
```

Remove Method

Removes the first occurrence of the specified server configuration from the list of available server configurations. There is no effect if the list does not contain the specified server configuration object.

Syntax

```
SpssServerConfList.Remove(serverConf)
```

Parameters

serverConf	An `SpssServerConf` object

RemoveItemAt Method

Removes the server configuration with the specified index from the list of available server configurations. The index corresponds to the order in which the server configurations were created.

Syntax

```
SpssServerConfList.RemoveItemAt(index)
```

Size Method

Returns the number of configured servers, including the local computer.

Syntax

```
SpssServerConfList.Size()
```

Chapter
10

Script Context

SpssScriptContext Class

The SpssScriptContext class provides access to the object that triggers an autoscript as well as the associated output document object. Autoscripts are scripts that run automatically when triggered by the creation of specific pieces of output from selected procedures. Scripts are specified as autoscripts and associated with output items (that trigger them) from the Scripts tab of the Options dialog.

SpssScriptContext objects are only for use when writing a script that will be used as an autoscript. They have a value of None if referenced by a script that is not being run as an autoscript.

You get an SpssScriptContext object from the GetScriptContext method of the SpssClient object.

Example: Get the Output Item that Triggered an Autoscript

```
import SpssClient
SpssClient.StartClient()
SpssScriptContext = SpssClient.GetScriptContext()
SpssOutputItem = SpssScriptContext.GetOutputItem()
```

The GetOutputItem method of the SpssScriptContext object returns the output item (SpssOutputItem object) that triggered the current autoscript.

GetOutputDoc Method

Returns an SpssOutputDoc object representing the output document associated with the current autoscript.

Syntax

```
SpssOutputDoc=SpssScriptContext.GetOutputDoc()
```

GetOutputItem Method

Returns an SpssOutputItem object representing the output item that triggered the current autoscript.

Syntax

```
SpssOutputItem=SpssScriptContext.GetOutputItem()
```

Note: To obtain an object of a specific output type, such as a pivot table or header item, from an SpssOutputItem object, call the GetSpecificType method of the SpssOutputItem object.

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GetOutputItemIndex Method

Returns the index, in the associated output document, of the output item that triggered the current autoscript. The index corresponds to the order of the items in the output document, starting with 0 for the root item.

Syntax

```
SpssScriptContext.GetOutputItemIndex()
```

Appendix

A

Setting Color Values

Color values are expressed as integers. If you're accustomed to specifying colors in RGB format, you can convert to the associated integer using the following:

```
integer color value = R + G*(256) + B*(256^2)
```

where R, G, and B are the RGB values. For reference, following are some of the most common colors and their integer values:

Color	Integer Value
Black	0
Blue	16711680
Cyan	16776960
Green	65280
Magenta	16711935
Red	255
White	16777215
Yellow	65535

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Appendix

B

Export Options

Export options are retrieved from the GetExportOption method of the `SpssClient` class and set from the SetExportOption method of that class. The option identifiers have the form `SpssClient.ExportOptions.<option>`, where the available option values are listed below—for example, `SpssClient.ExportOptions.GraphExportType`. All of the settings are strings.

Option	Valid Settings
ObjectsToExport	“all”, “visible”, “selected”
DocExportType	“excel”, “html”, “pdf”, “plain”, “utf8”, “utf16”, “word_rtf”, “none” (graphics only)
DocFilePath	Export document file path
GraphExportType	“bmp”, “emf”, “eps”, “jpg”, “png”, “tiff”
GraphFilePath	Export graph file path
XLSLayers	“all”, “honor” (honors print layer setting), “visible”
XLSFootnotes	“No”, “Yes”
HTMLayers	“all”, “honor” (honors print layer setting), “visible”
HTMFootnotes	“No”, “Yes”
WordRTFLayers	“all”, “honor” (honors print layer setting), “visible”
WordRTFFootnotes	“No”, “Yes”
TXTPlainTabsOrSpaces	“tabs”, “spaces”
TXTPlainColumnWidthType	“autofit”, “custom”
TXTPlainNoOfChars	Character representation of integer
TXTPlainRowBorderChar	Row border character
TXTPlainColBorderChar	Column border character
TxtPlainLayersInPivotTable	“all”, “honor” (honors print layer setting), “visible”
TXTPlainFootnoteCaption	“No”, “Yes”
TXTPlainInsertPageBreak	“No”, “Yes”
TXTUTF8TabsOrSpaces	“tabs”, “spaces”
TXTUTF8ColumnWidthType	“autofit”, “custom”
TXTUTF8NoOfChars	Character representation of integer
TXTUTF8RowBorderChar	Row border character
TXTUTF8ColBorderChar	Column border character
TxtUTF8LayersInPivotTable	“all”, “honor” (honors print layer setting), “visible”
TXTUTF8FootnoteCaption	“No”, “Yes”
TXTUTF8InsertPageBreak	“No”, “Yes”
TXTUTF16TabsOrSpaces	“tabs”, “spaces”
TXTUTF16ColumnWidthType	“autofit”, “custom”
TXTUTF16NoOfChars	Character representation of integer
TXTUTF16RowBorderChar	Row border character
TXTUTF16ColBorderChar	Column border character
TxtUTF16LayersInPivotTable	“all”, “honor” (honors print layer setting), “visible”

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TXTUTF16FootnoteCaption	“No”, “Yes”
TXTUTF16InsertPageBreak	“No”, “Yes”
PDFOptimize	“No”, “Yes”
PDFEmbedBookmarks	“No”, “Yes”
PDFEmbedFonts	“No”, “Yes”
PDFLayers	“all”, “honor” (honors print layer setting), “visible”
JPEGSize	Character representation of image size in percent
JPEGGreyScale	“No”, “Yes”
BMPSize	Character representation of image size in percent
BMPCompressImage	“no”, “yes”
PNGSize	Character representation of image size in percent
PNGColorDepth	“current” (current screen depth), “bw” (black and white), “256gray”, “16color”, “256color”, “24bit” (true color), “32bit” (true color)
TIFSize	Character representation of image size in percent
EPSSize	“physical_size” (same aspect ratio), “current_size”
EPSPercent	Character representation of image size in percent. Applies to “current_size”.
EPSWidthPoints	Character representation of image width in points. Applies to “physical_size”.
EPSPreviewImage	“no”, “yes”
EPSFont	“replace_font”, “use_font_ref”

Appendix

C

String Description of Numeric Formats

If you are using a localized version of IBM® SPSS® Statistics, use the strings displayed in the Format list box on the Format Value tab (accessed from Format>Cell Properties in the pivot table editor).

String	Example / Description
#.#	1234.567
#.#;#.##E-#	1234.567(scientific notation if the cell is not wide enough)
#,###.##	1,234.567
#.###,##	1.234,567
#.##E+##	1.23E+03
##.#%	56.7%
dd.mmm.yy	28-OCT-94
dd-mmm-yyyy	28-OCT-1994
mm/dd/yy	10/28/94
mm/dd/yyyy	10/28/1994
dd.mm.yy	28.10.94
dd.mm.yyyy	28.10.1994
yy/mm/dd	94/10/28
yyyy/mm/dd	1994/10/28
yyddd	94301 (Julian date)
yyyyddd	1994301 (Julian date)
q Q yy	4 Q 94
q Q yyyy	4 Q 1994
mmm yy	OCT 94
mmm yyyy	OCT 1994
ww WK yy	43 WK 94
ww WK yyyy	43 WK 1994
dd-mmm-yyyy hh:mm	28-OCT-1994 08:03
dd-mmm-yyyy hh:mm:ss	28-OCT-1994 08:03:00
ddd.hh.mm	301 20:03
ddd.hh/mm.ss.##	301 20:03:00.04
Monday, Tuesday...	Friday
January, February...	October
hh:mm	08:03
hh:mm:ss.##	08:03:00.04
$#,###.##	$1,234.56

You can create up to five custom currency display formats that can include special prefix and suffix characters and special treatment for negative values. The five custom currency format names are CCA, CCB, CCC, CCD, and CCE. The string can be used to specify the currency formats.

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Appendix

D

Preference Options

Preference options are retrieved from the GetPreference method of the `SpssClient` class and set from the SetPreference method of that class. The option identifiers have the form `SpssClient.PreferenceOptions.<option>`, where the available option values are listed below—for example, `SpssClient.PreferenceOptions.VariableListDisplay`. All of the settings are strings.

General Options

Option	Valid Settings
VariableListDisplay	“labels”, “names”
VariableListSort	“alphabetical”, “file”, “measurement”
MeasurementSystem	“points”, “inches”, “centimeters”
Language	“Russian”, “French”, “German”, “English”, “Italian”, “Japanese”, “Korean”, “Polish”, “SChinese”, “Spanish”, “TChinese”,
AutoRaise	“true”, “false”
OutputScroll	“true”, “false”
OutputSound	“system_beep”, “none”, “sound”
OutputSoundFile	Path to a custom sound file
ScientificNotation	“true”, “false”
DigitGrouping	Option associated with SET/SHOW DIGITGROUPING. Settings are “true” or “false”.
OpenSyntaxAtStartup	“true”, “false”
OnlyOneDataset	“true”, “false”
OXMLVersion	Option associated with SET/SHOW XVERSION. Settings are “default” or the Output XML schema version.
OutputAttributes	Option associated with SET/SHOW OATTRS. Settings are “olang”, “eng”, or “both”.

Viewer Options

Option	Valid Settings
TitleFont	Font name, e.g. “Serif”
TitleFontSize	Character representation of integer
TitleFontBold	“true”, “false”
TitleFontItalic	“true”, “false”
TitleFontUnderline	“true”, “false”
TitleFontColor	Character representation of integer color
PageTitleFont	Font name, e.g. “Serif”
PageTitleFontSize	Character representation of integer

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PageTitleFontBold	“true”, “false”
PageTitleFontItalic	“true”, “false”
PageTitleFontUnderline	“true”, “false”
PageTitleFontColor	Character representation of integer color
TextOutputFont	Font name, e.g. “Serif”
TextOutputFontSize	Character representation of integer
TextOutputFontBold	“true”, “false”
TextOutputFontItalic	“true”, “false”
TextOutputFontUnderline	“true”, “false”
TextOutputFontColor	Character representation of integer color
DisplayCommandsLog	“Off”, “On”
LogContents	“hidden”, “shown”
WarningsContents	“hidden”, “shown”
WarningsJustification	“align_left”, “align_center”, “align_right”
NotesContents	“hidden”, “shown”
NotesJustification	“align_left”, “align_center”, “align_right”
TitleContents	“hidden”, “shown”
TitleJustification	“align_left”, “align_center”, “align_right”
PageTitleContents	“hidden”, “shown”
PageTitleJustification	“align_left”, “align_center”, “align_right”
PivotTableContents	“hidden”, “shown”
PivotTableJustification	“align_left”, “align_center”, “align_right”
ChartContents	“hidden”, “shown”
ChartJustification	“align_left”, “align_center”, “align_right”
TextOutputContents	“hidden”, “shown”
TreeModelContents	“hidden”, “shown”
GenericJustification	“align_left”, “align_center”, “align_right”

Data Options

Option	Valid Settings
TransformationMergeOptions	“calculate_before_used”, “calculate_immediately”
RandomNumberGenerator	“MC” (compatible with SPSS 12 and earlier), “MT” (Mersenne Twister)
DisplayFormatWidth	Character representation of integer between 1 and 40.
DisplayFormatDecimal	Character representation of integer between 0and 15.
ReadingExternalData	Character representation of integer between 1 and 40.
CenturyRangeValue	“Automatic”, “custom”
CenturyRangeBeginYear	Character representation of integer between 1582 and 9900.

File Locations

Option	Valid Settings
RecordSyntax	“false”, “true”
RecordMode	“append”, “overwrite”
SessionJournalFile	Path to journal file

TempDir	Path to temp directory
RecentFiles	Recently used file list. Character representation of integer between 0 and 9.
DataFiles	Path to startup folder for data files on Open and Save dialogs
OtherFiles	Path to startup folder for other files on Open and Save dialogs
SpecifiedAndLastFolder	“true” (last folder used), “false” (specified folder)

Currency Options

Option	Valid Settings
CustomOutputFormat	“CCA”, “CCB”, “CCC”, “CCD”, “CCE”
AllValuesPrefix	All values prefix
AllValuesSuffix	All values suffix
NegativeValuesPrefix	Negative values prefix
NegativeValuesSuffix	Negative values suffix
DecimalSeparator	“comma”, “period”

Output Options

Option	Valid Settings
OutlineVariables	“Names”, “Labels”, “Both”
OutlineVariableValues	“Values”, “Labels”, “Both”
PivotTableVariables	“Names”, “Labels”, “Both”
PivotTableVariableValues	“Values”, “Labels”, “Both”
OutputDisplay	“ModelViewer”, “Tables”

Chart Options

Option	Valid Settings
ChartTemplate	“On”, “Off”
ChartTemplateFile	Path to chart template file
ChartAspectRatio	Chart aspect ratio
ChartFont	Font name, e.g. “Arial”
ChartFrameInner	“true”, “false”
ChartFrameOuter	“true”, “false”
GridLineScale	“true”, “false”
GridLineCategory	“true”, “false”
StyleCyclePref	“ColorsOnly”, “PatternsOnly”

Pivot Table Options

Option	Valid Settings
ColumnWidth	“Labels”, “Both” (labels and data)

EditingMode	“all_tables”, “large_tables”, “open_tables_window”
TableRender	“full”, “fast”, “light” (alias for “fast”)

Note: For the `TableRender` option, `"light"` is deprecated for release 20 and higher, and has the same effect as `"fast"`.

Appendix

E

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