```
NumbersNMCTCurrency = 'fcur' /* Currency number format */,
    NumbersNMCTCheckbox = 'fcch' /* Checkbox control format (Numbers only) */,
    NumbersNMCTAutomatic = 'faut' /* Automatic format */,
enum NumbersNMCT {
typedef enum NumbersNMSD NumbersNMSD;
}:
    NumbersNMSDDescending = 'dscn' /* Sort in decreasing value order */
    NumbersNMSDAscending = 'ascn' /* Sort in increasing value order */,
enum NumbersNMSD {
typedef enum NumbersTAHT NumbersTAHT;
    NumbersTAHTRight = 'arit' /* Right-align content. */
    NumbersTAHTLeft = 'alft' /* Left-align content. */,
    NumbersTAHTJustify = 'ajst' /* Fully justify (left and right) content, */,
    NumbersTAHTCenter = 'actr' /* Center-align content. */,
    NumbersTAHTAutoAlign = 'aaut' /* Auto-align based on content type. */,
enum NumbersTAHT {
typedef enum NumbersTAVT NumbersTAVT;
};
    NumbersTAVTTop = 'avtp' /* Top-align content. */
    NumbersTAVTCenter = 'actr' /* Center-align content, */,
    NumbersTAVTBottom = 'avbt' /* Right-align content. */,
enum NumbersTAVT {
typedef enum NumbersPrintingErrorHandling NumbersPrintingErrorHandling;
PostScript errors */
    NumbersPrintingErrorHandlingDetailed = 'lwdt' /* print a detailed report of
*/'
    NumbersPrintingErrorHandlingStandard = 'lwst' /* Standard PostScript error handling
enum NumbersPrintingErrorHandling {
typedef enum NumbersSaveOptions NumbersSaveOptions;
}:
    NumbersSaveOptionsAsk = 'ask ' /* Ask the user whether or not to save the file. */
    NumbersSaveOptionsNo = 'no ' /* Do not save the file. */,
    NumbersSaveOptionsYes = 'yes ' /* Save the file, */,
enum NumbersSaveOptions {
NumbersColumn, NumbersSheet, NumbersTemplate;
NumbersMovie, NumbersTable, NumbersTextItem, NumbersRange, NumbersCell, NumbersRow,
NumbersAudioClip, NumbersShape, NumbersChart, NumbersImage, NumbersGroup, NumbersLine,
NumbersCharacter, NumbersParagraph, NumbersWord, NumbersIWorkContainer, NumbersIWorkItem,
@class NumbersApplication, NumbersDocument, NumbersWindow, NumbersRichText,
#import <ScriptingBridge/ScriptingBridge.h>
#import <AppKit/AppKit.h>
 *\
 * Numbers.h
\*
```

```
@protocol NumbersGenericMethods
typedef enum NumbersImageQuality NumbersImageQuality;
};
    NumbersImageQualityBest = 'KnP2' /* Best quality. */
    NumbersImageQualityBetter = 'KnP1' /* Better quality. */,
    NumbersImageQualityGood = 'KnP0' /* Good quality. */,
enum NumbersImageQuality {
typedef enum NumbersExportFormat NumbersExportFormat;
    NumbersExportFormatNumbers09 = 'Nnmb' /* Numbers 09 */
    NumbersExportFormatCSV = 'Ncsv' /* CSV */,
    NumbersExportFormatMicrosoftExcel = 'Nexl' /* Microsoft Excel */,
    NumbersExportFormatPDF = 'Npdf' /* PDF */,
enum NumbersExportFormat {
typedef enum NumbersSaveableFileFormat NumbersSaveableFileFormat;
};
    NumbersSaveableFileFormatNumbers = 'Nuff' /* The Numbers native file format */
enum NumbersSaveableFileFormat {
typedef enum NumbersPlaybackRepetitionMethod NumbersPlaybackRepetitionMethod;
}:
    NumbersPlaybackRepetitionMethodLoopBackAndForth = 'mvbf' /* */
    NumbersPlaybackRepetitionMethodLoop = 'mvlp' /* */,
    NumbersPlaybackRepetitionMethodNone = 'mvrn' /* */,
enum NumbersPlaybackRepetitionMethod {
typedef enum NumbersItemFillOptions NumbersItemFillOptions;
};
    NumbersItemFillOptionsAdvancedImageFill = 'fiai' /* */
    NumbersItemFillOptionsImageFill = 'fiim' /* */,
    NumbersItemFillOptionsAdvancedGradientFill = 'fiag' /* */,
    NumbersItemFillOptionsGradientFill = 'figr' /* */,
    NumbersItemFillOptionsColorFill = 'fico' /* */,
    NumbersItemFillOptionsNoFill = 'fino' /* */,
enum NumbersItemFillOptions {
typedef enum NumbersNMCT NumbersNMCT;
};
    NumbersNMCTNumeralSystem = 'fcns' /* Numeral System */
    NumbersNMCTRating = 'frat' /* Rating format. (Numbers only) */,
    NumbersNMCTDuration = 'fdur' /* Duration format */,
    NumbersNMCTText = 'ctxt' /* Text format */,
    NumbersNMCTStepper = 'fcst' /* Stepper control format (Numbers only) */,
    NumbersNMCTSlider = 'fcsl' /* Slider control format (Numbers only) */,
    NumbersNMCTScientific = 'fsci' /* Scientific notation format */,
    NumbersNMCTPopUpMenu = 'fcpp' /* Pop-up menu control format (Numbers only) */,
    NumbersNMCTPercent = 'fper' /* Percentage number format */,
    NumbersNMCTNumber = 'nmbr' /* Decimal number format */,
    NumbersNMCTFraction = 'ffra' /* Fraction number format */,
    NumbersNMCTDateAndTime = 'fdtm' /* Date and time format */,
```

- (void) closeSaving:(NumbersSaveOptions)saving savingIn:(NSURL *)savingIn; // Close a

@interface NumbersWindow : SBObject <NumbersGenericMethods> // A window. @end *)withProperties; // Export a document to another file - (void) exportTo:(NSURL *)to as:(NumbersExportFormat)as withProperties:(NSDictionary @property (copy, readonly) NSURL *file; // Its location on disk, if it has one. @property (readonly) BOOL modified; // Has it been modified since the last save? @property (copy, readonly) NSString *name; // Its name. @interface NumbersDocument : SBObject <NumbersGenericMethods> // A document. @end password from the document. - (void) removePassword: (NSString *)x from: (NumbersDocument *)from; // Remove the savingInKeychain: (BOOL)savingInKeychain; // Set a password to an unencrypted document. - (void) setPassword:(NSString *)x to:(NumbersDocument *)to hint:(NSString *)hint - (B00L) exists:(id)x; // Verify that an object exists. - (void) quitSaving: (NumbersSaveOptions)saving; // Quit the application. (BOOL)printDialog; // Print a document. - (void) print:(id)x withProperties:(NSDictionary *)withProperties printDialog: - (id) open:(id)x; // Open a document. @property (copy, readonly) NSString *version; // The version number of the application. @property (readonly) BOOL frontmost; // Is this the active application? @property (copy, readonly) NSString *name; // The name of the application. - (SBElementArray<NumbersWindow *> *) windows; - (SBElementArray<NumbersDocument *> *) documents; @interface NumbersApplication : SBApplication // The application's top-level scripting object. *\ * Standard Suite * @end - (void) delete; // Delete an object. - (void) moveTo:(SBObject *)to; // Move an object to a new location. Copy an object. - (void) duplicateTo:(SBObject *)to withProperties:(NSDictionary *)withProperties; // - (void) delete; // Delete an object. (BOOL)printDialog; // Print a document. - (void) printWithProperties:(NSDictionary *)withProperties printDialog: - (void) saveIn:(NSURL *)in_ as:(NumbersSaveableFileFormat)as; // Save a document. document.

```
@end
@interface NumbersCharacter : NumbersRichText
// One of some text's characters.
@end
@property double size; // The size of the font.
the Font Book application get the information about a typeface.
such as: "TimesNewRomanPS-ItalicMT", or display name: "Times New Roman Italic". TIP: Use
@property (copy) NSString *font; // The name of the font. Can be the PostScript name,
consisting of a list of three color values from 0 to 65535, ex: Blue = \{0, 0, 65535\}.
@property (copy) NSColor *color; // The color of the font. Expressed as an RGB value
- (SBElementArray<NumbersWord *> *) words;
- (SBElementArray<NumbersParagraph *> *) paragraphs;
- (SBElementArray<NumbersCharacter *> *) characters;
@interface NumbersRichText : SBObject <NumbersGenericMethods>
// This provides the base rich text class for all iWork applications.
 *\
 * iWork Text Suite
@end
displayed in the window.
@property (copy, readonly) NumbersDocument *document; // The document whose contents are
@property BOOL zoomed; // Is the window zoomed right now?
@property (readonly) BOOL zoomable; // Does the window have a zoom button?
@property BOOL visible; // Is the window visible right now?
@property (readonly) B00L resizable; // Can the window be resized?
@property BOOL miniaturized; // Is the window minimized right now?
@property (readonly) BOOL miniaturizable; // Does the window have a minimize button?
@property (readonly) BOOL closeable; // Does the window have a close button?
```

@property NSRect bounds; // The bounding rectangle of the window.

@property (copy, readonly) NSString *name; // The title of the window.

- (NSInteger) id; // The unique identifier of the window.

@property NSInteger index; // The index of the window, ordered front to back.

@end

- (SBElementArray<NumbersWord *> *) words;

// One of some text's paragraphs.

@interface NumbersParagraph : NumbersRichText

- (SBElementArray<NumbersCharacter *> *) characters;

```
// An audio clip
@end
@property NSInteger width; // The width of the iWork item.
point of the iWork item.
@property NSPoint position; // The horizontal and vertical coordinates of the top left
containing this iWork item.
@property (copy, readonly) NumbersIWorkContainer *parent; // The iWork container
@property BOOL locked; // Whether the object is locked.
@property NSInteger height; // The height of the iWork item.
@interface NumbersIWorkItem : SBObject <NumbersGenericMethods>
// An item which supports formatting
@end
- (SBElementArray<NumbersTextItem *> *) textItems;
- (SBElementArray<NumbersTable *> *) tables;
- (SBElementArray<NumbersShape *> *) shapes;
- (SBElementArray<NumbersMovie *> *) movies;
- (SBElementArray<NumbersLine *> *) lines;
- (SBElementArray<NumbersGroup *> *) groups;
- (SBElementArray<NumbersIWorkItem *> *) iWorkItems;
- (SBElementArray<NumbersImage *> *) images;
- (SBElementArray<NumbersChart *> *) charts;
- (SBElementArray<NumbersAudioClip *> *) audioClips;
@interface NumbersIWorkContainer : SBObject <NumbersGenericMethods>
// A container for iWork items
@end
protected or not.
@property (readonly) B00L passwordProtected; // Whether the document is password
selected items.
@property (copy) NSArray<NumbersIWorkItem *> *selection; // A list of the currently
@interface NumbersDocument (IWorkSuite)
 *\
 * iWork Suite
@end
- (SBElementArray<NumbersCharacter *> *) characters;
@interface NumbersWord : NumbersRichText
// One of some text's words.
```

@interface NumbersAudioClip : NumbersIWorkItem

@property (copy) id fileName; // The name of the audio file.

@property NSInteger clipVolume; // The volume setting for the audio clip, from 0 (none)
to 100 (full volume).

@property NumbersPlaybackRepetitionMethod repetitionMethod; // If or how the audio clip repeats.

@end

// A shape container
@interface NumbersShape : NumbersIWorkItem

@property (readonly) NumbersItemFillOptions backgroundFillType; // The background, if any, for the shape.

@property (copy) NumbersRichText *objectText; // The text contained within the shape. @property BOOL reflectionShowing; // Is the iWork item displaying a reflection?

@property NSInteger reflectionValue; // The percentage of reflection of the iWork item, from θ (perc) to 100 (fill)

from 0 (none) to 100 (full). @property NSInteger rotation; $\//$ The rotation of the iWork item, in degrees from 0 to

@property NSInteger opacity; // The opacity of the object, in percent.

@end

// A chart
@interface NumbersChart : NumbersIWorkItem

@end

// An image container
@interface NumbersImage : NumbersIWorkItem

@property (copy) NSString *objectDescription; // Text associated with the image, read aloud by VoiceOver.

@property (copy, readonly) NSURL *file; // The image file.

@property (copy) id fileName; // The name of the image file.

@property NSInteger opacity; // The opacity of the object, in percent.

@property BOOL reflectionShowing; // Is the iWork item displaying a reflection?

@property NSInteger reflectionValue; // The percentage of reflection of the iWork item, from 0 (none) to 100 (full).

@property NSInteger rotation; $\//\$ The rotation of the iWork item, in degrees from 0 to 359.

@end

// A group container
@interface NumbersGroup : NumbersIWorkContainer

@property NSInteger height; // The height of the iWork item.
@property (copy, readonly) NumbersIWorkContainer *parent; // The iWork container

containing this iWork item.

@property NSPoint position; // The horizontal and vertical coordinates of the top left point of the iWork item.

@property NSInteger width; // The width of the iWork item.

@property NSInteger rotation; // The rotation of the iWork item, in degrees from 0 to 359.

@end

// A line
@interface NumbersLine : NumbersIWorkItem

@property NSPoint endPoint; // A list of two numbers indicating the horizontal and vertical position of the line ending point.

@property BOOL reflectionShowing; // Is the iWork item displaying a reflection?
@property NSInteger reflectionValue: // The percentage of reflection of the iWo.

@property NSInteger reflectionValue; $\//\$ The percentage of reflection of the iWork item, from 0 (none) to 100 (full).

@property NSInteger rotation; // The rotation of the iWork item, in degrees from 0 to 359.

@property NSPoint startPoint; // A list of two numbers indicating the horizontal and vertical position of the line starting point.

@end

// A movie container
@interface NumbersMovie : NumbersIWorkItem

@property (copy) id fileName; // The name of the movie file.

@property NSInteger movieVolume; // The volume setting for the movie, from 0 (none) to 100 (full volume).

@property NSInteger opacity; // The opacity of the object, in percent.

@property BOOL reflectionShowing; // Is the iWork item displaying a reflection?

@property NSInteger reflectionValue; $\//$ The percentage of reflection of the iWork item, from 0 (none) to 100 (full).

@property NumbersPlaybackRepetitionMethod repetitionMethod; // If or how the movie repeats.

@property NSInteger rotation; $\//\$ The rotation of the iWork item, in degrees from 0 to 359.

@end

// A table
@interface NumbersTable : NumbersIWorkItem

- (SBElementArray<NumbersCell *> *) cells;
- (SBElementArray<NumbersRow *> *) rows;
- (SBElementArray<NumbersColumn *> *) columns;
- (SBElementArray<NumbersRange *> *) ranges;

@property (copy) NSString *name; // The item's name.
@property (copy, readonly) NumbersRange *cellRange; // The range describing every cell
in the table.

@property (copy) NumbersRange *selectionRange; // The cells currently selected in the table. @property NSInteger rowCount; // The number of rows in the table.

@property NSInteger columnCount; // The number of columns in the table.

@property NSInteger headerRowCount; // The number of header rows in the table.

@property NSInteger headerColumnCount; // The number of header columns in the table.

@property NSInteger footerRowCount; // The number of footer rows in the table.

- (void) sortBy:(NumbersColumn *)by direction:(NumbersNMSD)direction inRows:(NumbersRange *)inRows; // Sort the rows of the table.
- (void) transpose; // Transpose the rows and columns of the table.

@end

// A text container @interface NumbersTextItem : NumbersIWorkItem

@property (readonly) NumbersItemFillOptions backgroundFillType; // The background, if any, for the text item.

<code>@property</code> (copy) NumbersRichText *objectText; // The text contained within the text item.

@property NSInteger opacity; // The opacity of the object, in percent.

@property BOOL reflectionShowing; // Is the iWork item displaying a reflection?

@property NSInteger reflectionValue; // The percentage of reflection of the iWork item, from 0 (none) to 100 (full).

@property NSInteger rotation; // The rotation of the iWork item, in degrees from 0 to 359.

@end

// A range of cells in a table
@interface NumbersRange : SBObject <NumbersGenericMethods>

- (SBElementArray<NumbersCell *> *) cells;
- (SBElementArray<NumbersColumn *> *) columns;
- (SBElementArray<NumbersRow *> *) rows;

@property (copy) NSString *fontName; // The font of the range's cells. @property double fontSize; // The font size of the range's cells.

@property NumbersNMCT format; // The format of the range's cells.

@property NumbersTAHT alignment; // The horizontal alignment of content in the range's cells.

@property (copy, readonly) NSString *name; // The range's coordinates.

@property (copy) NSColor *textColor; // The text color of the range's cells.

@property BOOL textWrap; // Whether text should wrap in the range's cells.

@property (copy) NSColor *backgroundColor; // The background color of the range's cells.
@property NumbersTAVT verticalAlignment; // The vertical alignment of content in the range's cells.

- (void) clear; // Clear the contents of a specified range of cells, including formatting and style.

- (void) merge; // Merge a specified range of cells.
- (void) unmerge; // Unmerge all merged cells in a specified range.
- (SBObject *) addColumnAfter; // Add a column to the table after a specified range of

@interface NumbersRow : NumbersRange // A row of cells in a table @end value of a cell to a formula as text, use the value property. =SUM(40+2). If the cell does not contain a formula, returns missing value. To set the @property (copy, readonly) NSString *formula; // The formula in the cell, as text, e.g. or missing value if the cell is empty. @property (copy, readonly) NSString *formattedValue; // The formatted value in the cell, is empty. @property (copy) id value; // The actual value in the cell, or missing value if the cell @property (copy, readonly) NumbersRow *row; // The cell's row. @property (copy, readonly) NumbersColumn *column; // The cell's column. @interface NumbersCell : NumbersRange // A cell in a table @end - (void) remove; // Remove specified rows or columns from a table. (SBObject *) addRowBelow; // Add a row to the table below a specified range of cells. - (SBObject *) addRowAbove; // Add a row to the table below a specified range of cells. cells. - (SBObject *) addColumnBefore; // Add a column to the table before a specified range of cells.

@end

// A column of cells in a table

second row has address 2).

@interface NumbersColumn : NumbersRange
@property (readonly) NSInteger address; // The column's index in the table (e.g., the
second column has address 2).
@property double width; // The width of the column.

@property (readonly) NSInteger address; // The row's index in the table (e.g., the

@end

```
/*
 * Numbers Suite
 */
 */
// The Numbers application.
@interface NumbersApplication (NumbersSuite)
```

@property double height; // The height of the row.

- (SBElementArray<NumbersTemplate *> *) templates;

```
@interface NumbersColumn (CompatibilitySuite)
@end
@interface NumbersRow (CompatibilitySuite)
@end
@interface NumbersRange (CompatibilitySuite)
 *\
 * Compatibility Suite
@end
@property (copy, readonly) NSString *name; // The localized name displayed to the user.
- (NSString *) id; // The identifier used by the application.
@interface NumbersTemplate : SBObject <NumbersGenericMethods>
// A styled document layout.
@end
@property BOOL headerColumnsFrozen; // Whether header columns are frozen.
@property BOOL headerRowsFrozen; // Whether header rows are frozen.
@property BOOL filtered; // Whether the table is currently filtered.
@interface NumbersTable (NumbersSuite)
@end
@property (copy) NSString *name; // The sheet's name.
@interface NumbersSheet : NumbersIWorkContainer
// A sheet in a document
@end
@property (copy) NumbersSheet *activeSheet; // The active sheet.
to the document.
@property (copy, readonly) NumbersTemplate *documentTemplate; // The template assigned
- (NSString *) id; // Document ID.
```

- (SBElementArray<NumbersSheet *> *) sheets;

@interface NumbersDocument (NumbersSuite)

// The Numbers document.

@end