

Data Template Utility

Quick Reference Guide

Before You Begin

If you create a plan for your application, you can add the elements to the structural text file quickly and efficiently. Your plan should include the following information:

- Type of splash screen (text only, graphic only, text and graphics)
- Name and version number of the application
- Number of menus and submenus
- Number of lists (data sets) for each menu item
- Names of lists, menus, and submenus (See below for details.)

Naming Conventions

Both text files and menus have specific naming limitations, as described below.

Names for . . .	Have these limitations
Text files	
Structural	Can be up to 8 characters long - a file with a longer name cannot be converted
Data Set	<ul style="list-style-type: none">• Can be up to 8 characters long• First 5 characters become the list name; must begin with a letter and contain only letters and numbers to be a valid TI-83 Plus list name• Will be truncated to 5 characters when the data set is loaded into the calculator because the TI-83 Plus only allows list names with up to 5 characters• Data sets whose file names have the same first 5 characters will be considered duplicates
Menus and Submenus	<ul style="list-style-type: none">• Can be up to 11 characters long• Can have upper and lowercase letters• Can have spaces

Data Set Text Files

Create each data set as a separate file, using the following guidelines. You can use any word processor to create these files. Save each file as a document text file (.txt).

You must do this:	You can do this:	You cannot do this:
<ul style="list-style-type: none">• Create a file that only contains data elements• Include only data elements in the file (no other text)• Place each data element on a separate line• Make sure that the first 5 characters of the file name are unique	<ul style="list-style-type: none">• Use decimal point notation• Use scientific notation, or complex numbers if needed (e.g., 3.40000e02 or 5.75I).• Use exponents from -99 to 99 for scientific notation• Have up to 999 elements in a dataset	<ul style="list-style-type: none">• Use commas to separate thousands• Leave blank lines between data elements

Structural Text File

The structural text file contains the instructions for creating your application. It has three main sections:

1. Application name and introductory screen
2. Application main menu
3. Submenus and lists

This file must be created with the information in the above order so that it can be converted correctly.

You can use any word processor to create this file. Save it as a document text file (.txt).

Application Name and Introductory Screen Section

The information in this section creates the introductory screen for your application. The first five rows must be included in the file and must be in the correct order as shown in the example.

If the introductory screen contains only a graphic, skip to the Application Main Menu Section. If it contains text, you must include the rows to define these items for each line of text:

- font size
- row to start on
- text

Use the following guidelines when you create text lines:

Text	Guideline
Large font	Can use up to 16 characters
Small font	Can use up to 24 characters
Text with spaces	Must enclose text in quotation marks (i.e. "Intro to Stats")
Row 8 of splash screen	If no delay is selected, row 8 of the splash screen automatically displays PRESS ANY KEY

Application Main Menu Section

The information in this section of the structural text file creates the first menu screen that the user sees. You begin with a menu label (internal reference name) so that the program can identify this menu. Then you specify the number of items that will be displayed and that they are menu items. Next, you give the screen a title that is displayed in the upper left corner. You must then define the following for each menu item:

- menu name to display on the screen
- menu label (internal reference name) for that menu

Submenus and Lists

After you create the main menu, you create the screens that the items on the main menu point to. You can

- create a selection screen (direct the user to a list of data sets to load)
- create a submenu (direct the user to another menu)

You create submenus exactly like you created the application main menu. To create a selection screen, specify the menu label for the menu item that directs the user to the list. Then, specify the number of items (lists) that will be displayed on this screen, that it is a selection screen, and the data set file names for the program to open and read.

Structural Text File Example

Application Name and Intro Screen Section	STATDATA	*** line 1 Application name
	3	*** line 2 Delay in seconds: 0 if key input; 1-5 if delay
	0	*** line 3 0 if no graphic (text only), 1 if graphic used
	0	*** line 4 Graphic file name; 0 if no graphic
	3	*** line 5 Number of lines of text on intro screen
	0	*** line 6 0 if large font, 1 if small font for first line of text
	2	*** line 7 Row to start on (1-8) for first line of text
	“Intro to Stats”	*** line 8 Intro screen text - 1st line (must be <=16 characters)
	0	*** line 9 0 if large font, 1 if small font for second line of text
	4	*** line 10 Row to start on (1-8) for second line of text
	“Data Sets”	*** line 11 Intro screen text - 2nd line (must be <=16 characters)
	1	*** line 12 0 if large font, 1 if small font for third line of text
	7	*** line 13 Row to start on (1-8) for third line of text
	“Version a0.01 2000”	*** line 14 Intro screen text - 3rd line (must be <=16 characters)
		*** line 15

Application Main Menu Section	TopMenu	*** line 16 Menu label (for reference) - may be up to 8 characters
	2	*** line 17 Number of items that will be displayed on this screen
	0	*** line 18 0 for a menu, 1 for a selection screen
	"Intro to Stats"	*** line 19 Menu title displayed in upper left corner - up to 11 chars
	"Section 1"	*** line 20 Menu name displayed on the first line
	SECT1	*** line 21 Menu label (for reference) - may be up to 8 characters
	"Section 2"	*** line 22 Menu name displayed on the second line
	SECT2	*** line 23 Menu label (for reference) - may be up to 8 characters *** line 24
Submenu Section	SECT1	*** line 25 Submenu label (for reference) - may be up to 8 characters
	2	***line 26 Number of items that will be displayed on this screen
	0	***line 27 0 for a menu, 1 for a selection screen
	"Section 1"	***line 28 Submenu title in upper left corner - up to 11 chars
	Exercises	***line 29 Submenu name displayed on the first line
	EXER1	***line 30 Submenu label (for reference) - may be up to 8 characters
	Review	***line 31 Submenu name displayed on the second line
Lists Section	REV1	***line 32 Submenu label (for reference) - may be up to 8 characters ***line 33
	EXER1	***line 34 Submenu label (for reference) - may be up to 8 characters
	2	***line 35 Number of items that will be displayed on this screen
	1	***line 36 0 for a menu, 1 for a selection screen
	DIST.TXT	***line 37 Name of data set text file to open and read
Lists Section	ACCEL.TXT	***line 38 Name of data set text file to open and read ***line 39
	REV1	***line 40 Submenu label (for reference) - may be up to 8 characters
	3	***line 41 Number of items that will be displayed on this screen
	1	***line 42 0 for a menu, 1 for a selection screen
	YARD.TXT	***line 43 Name of data set text file to open and read
	GLASS.TXT	***line 44 Name of data set text file to open and read
Lists Section	KEYS.TXT	***line 45 Name of data set text file to open and read ***line 46

Submenu Section	SECT2	***line 47 Submenu label (for reference) - may be up to 8 characters
	2	***line 48 Number of items that will be displayed on this screen
	0	***line 49 0 for a menu, 1 for a selection screen
	"Section 2"	***line 50 Submenu title in upper left corner - up to 11 chars
	Exercises	***line 51 Submenu name displayed on the first line
	EXER2	***line 52 Submenu label (for reference) - may be up to 8 characters
	Review	***line 53 Submenu name displayed on the second line
Lists Section	REV2	***line 54 Submenu label (for reference) - may be up to 8 characters
		***line 55
	EXER2	***line 56 Submenu label (for reference) - may be up to 8 characters
	3	***line 57 Number of items that will be displayed on this screen
	1	***line 58 0 for a menu, 1 a for selection screen
	BOOK.TXT	***line 59 Name of data set text file to open and read
	MIXED.TXT	***line 60 Name of data set text file to open and read
Lists Section	PULSE.TXT	***line 61 Name of data set text file to open and read
		***line 62
	REV2	***line 63 Submenu label (for reference) - may be up to 8 characters
	2	***line 64 Number of items that will be displayed on this screen
	1	***line 65 0 for a menu, 1 a for selection screen
	SURV.TXT	***line 66 Name of data set text file to open and read
	***line 67 Name of data set text file to open and read	
	HOUSE.TXT	

Warnings

Conversion Program

The following warning messages could be displayed when you convert the structural text file to an application in TI-83 Plus format.

When you see this warning message . . .	The conversion program has taken this action . . .
WARNING: Delay converted to a maximum of 5 seconds.	Reduced the delay to 5 seconds
WARNING: String (text) > (number) characters.	Truncated the text to 16 characters for large font or 24 characters for small font
WARNING: List name (name) converted to uppercase	Extracted the first 5 characters of the data set text file name and converted it to uppercase so that it can be used as a list name
WARNING: List name (name) > 5 characters	Truncated the list name to the first 5 characters
WARNING: Out of Range Data	Introductory screen text is specified on a row that will not be displayed on the screen. No action is taken by the conversion program.

Application

The following warning messages could be displayed when you review your application using the TI Flash Debugger.

Warning Message	Description
Editor Full: Not all lists fit in editor	The list editor can contain a maximum of 20 lists. The application loads lists into the editor until it is full. It loads remaining lists into RAM outside of the list editor.
Please select lists first	You have selected an option in the Set Up Editor without having any lists selected. Select at least one list and try again.

Errors

Conversion Program

The following error messages could be displayed when you convert the structural text file to an application in TI-83 Plus format.

Error Message	Description	Recovery
ERROR: Can't open (file name) for reading	A file is read-protected, open, or doesn't exist.	Check the following: <ul style="list-style-type: none">• file name was spelled incorrectly• file is not already open• file is not read-protected• file name is more than 8 characters long
ERROR: Can't open (file name) for writing	A file is write-protected.	Make sure that the file is not write-protected. If it is not, you might have low memory.
ERROR: App name (name) is too long	The application name is more than 8 characters.	Change the application name on line 1 of the structural text file to a length up to 8 characters.
ERROR: Unexpected EOF in (file name) at (line number)	A file doesn't contain all of the data that is expected.	Make sure that all menus and text strings have been included in the structural text file.
ERROR: Invalid delay value was specified	A non-numeric delay value was specified.	Change the delay value to a number from 1 to 5. If the value is correct, the file could contain a line that is out of order or a comment line that isn't preceded by three asterisks (***)).
ERROR: Bad data in (line number)	A non-numeric value was found at the line number.	Change the value to a number. If the value is correct, the file could contain a line that is out of order or a comment line that isn't preceded by three asterisks (***)).
ERROR: Too many Menu Labels	Over 250 menus are in the application.	Change the menu structure so that there are less than 250 menus.
ERROR: Length of (name) is too long	The length of a title, menu, or list name exceeds the maximum allowable.	Shorten the name, making sure that you do not create a duplicate name by doing so.
ERROR: Too many lists	Over 250 lists are in the application.	Change the application structure so that there are less than 250 lists.
ERROR: No list elements in file (name)	The data text file is empty.	Add at least one element to the data text file.
ERROR: Too many list elements in file (name)	The data text file contains more than 999 elements.	Reduce the number of data elements to less than 999.

Error Message	Description	Recovery
ERROR: Syntax with (character) found on line (number) of file (name)	The data file contains one of the following types of invalid data: <ul style="list-style-type: none"> exponent followed by a decimal point multiple decimal points multiple exponents invalid character 	Correct the data in the specified file.
ERROR: Unresolved menu reference with label (name)	The template file is incomplete.	Review the structural text file to find the reference name and determine the correct action to take to correct the error.
ERROR: Unmatched quotes on input line (number)	A text string was started with quotation marks, but was not finished with them.	Place quotation marks at the end of the text string.

Application

The following error messages could be displayed when you review your application using the TI Flash Debugger.

Error Message	Description	Recovery
ERR: ARCHIVED	You have attempted to load a list that is already archived.	To skip the list and leave the archived one on the calculator, select 1:Omit. To overwrite the archived list: <ol style="list-style-type: none"> Press [2nd][MEM] Select 6:Unarchive Type the name of the list Press [ENTER]. The list is now unarchived so that it can be overwritten.
DuplicateName	You have attempted to load a list that is already in RAM.	Select one of the following options: Rename to rename the current list OverWrite to overwrite the list that is already on the calculator OverWrite All to overwrite any lists that are already on the calculator that are duplicates Omit to skip the list and leave the one that is already on the calculator Quit to stop loading lists
ERR: BREAK	You have pressed [ON] when a list was being loaded to RAM. The list that was being loaded was not created.	If you want to load the list, run the application again.
ERR: MEMORY	There is not enough free RAM to load the list.	Remove some data from RAM and run the application again.
ERR: SYNTAX	The list being loaded contains bad data.	The list cannot be loaded. The publisher must correct the application data.