

Book of Mormon Reference Converter 3.0
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GUI to convert scripture references between RLDS to LDS.

Historical Note: Book Names, Chapters, and Verses

The original 1830 Book of Mormon was divided into books and chapters, but had no verses. The 1835 edition preserved the chapter numbering, and verse numbers were added. The RLDS 1908 edition and all successive editions in the RLDS tradition retained the 1835 chapter and verse numbers. In the 1890's, the LDS church printed the Book of Mormon text divided into chapters and verses that were designed to be more uniform in length.

Today, every Book of Mormon printed follows one of these two numbering schemes, which we designate as "LDS" and "RLDS".

While all Books of Mormon have the same book names, there are many different sets of abbreviations for those names. In particular, the LDS 1952, RLDS 1908, Temple Lot, Zion Bound, and the Restored Covenant Edition all use different abbreviation schemes.

Purpose

The purpose of this program is to easily convert between LDS and RLDS Book of Mormon references.

GUI

The screenshot shows a window titled "Book of Mormon Reference Translation". It features two input fields at the top: the left one contains "(RLDS) 1 N 1:145-146" and the right one contains "(LDS) 1 Ne. 4:38-5:2". Below these are two dropdown menus labeled "Style (RLDS)" and "Style (LDS)", with "RLDS 1908" and "LDS 1982" selected respectively. A double-headed arrow button is positioned between the dropdowns. The main area of the window contains a grid of buttons for constructing the reference. The first section lists book names in three columns: "1 Nephi", "Omni", "3 Nephi" in the first row; "2 Nephi", "W of M", "4 Nephi" in the second; "Jacob", "Mosiah", "Mormon" in the third; "Enos", "Alma", "Ether" in the fourth; and "Jarom", "Helaman", "Moroni" in the fifth. The second section contains a 3x3 grid of numeric buttons: "1", "2", "3" in the first row; "4", "5", "6" in the second; and "7", "8", "9" in the third. Below the numeric grid are three buttons labeled "Space", "0", and "Delete". A final row contains three buttons labeled ":", ",", and "-". At the bottom center is a large "Enter" button.

Example 1. Program layout, showing the conversion of (RLDS) 1 N 1:145-146 to (LDS) 1 Ne. 4:38-5:2.

Input/Output

There are two ways to enter references. The entry field at the top left can be edited directly from the keyboard. <Return> converts the reference and prints it in the output field at the top right (see Example 1). Alternatively, the GUI provides a soft keyboard with book names, numbers, separators (colon, comma, dash) as well as <Space>, <Delete> and <Enter> buttons. Note: The output field cannot be directly edited, but the text can be selected and copied to the clipboard in the usual manner.

Switching input and output is accomplished by using the “<=>” button. Alternatively, one can edit the denomination name (LDS or RLDS) in the input field.

Styles

The style of the input and output determines which abbreviations are used by the program output. In Example 1, the First Book of Nephi is abbreviated “1 N” in the RLDS 1908 and “1 Ne.” in the LDS 1982, as shown in the figure on the previous page. The style can be altered at any time by selecting a style from the appropriate combobox. It is not an error to mix styles when inputting a reference from the keyboard, but selecting a style will immediately alter existing book names in the appropriate field. When choosing a style, only book names (abbreviations) are affected. If no valid book abbreviation is found, no change is made, and no error is generated.

Reference Strings

The syntax of valid reference strings is given by the grammar on the next page. Whenever a reference is converted, the output string will be a valid reference string. In addition to having the proper syntax, a valid reference string also follows the following rules:

1. Books are in increasing order (1 Nephi < 2 Nephi < ... < Moroni)
2. Book abbreviations belong to the same style (Long, RLDS 1908, LDS 1981, etc.)
3. Chapters and verses are in increasing lexical order (1:5-6 < 1:7 < 2:3)
4. Overlapping reference ranges and contiguous ranges are combined (1:1-4, 3-6, 7 = 1:1-7)

On the other hand, **input strings are not required to be valid reference strings**. For example, the following string is not a valid reference string, but it can easily be translated into one, and is an acceptable input to the program.

(RLDS) A. 16:78; 1N 1:146,145; A 16:77

This is treated exactly the same as the valid reference string

(RLDS) 1 N 1:145–146, A 16:77–78

and either gets converted to

(LDS) 1 Ne. 4:38–5:2, Alma 30:60–31:1

In general, spaces and periods are ignored. They only appear in converted strings when the style and the grammar mandates them.

Reference Syntax

<RefList>	<Ref> <Ref> ; <RefList>
<Ref>	<Book> <Chapter> <Verse Range>
<Book>	<Nephi Book> <Jacob Book> ... <Moroni Book>
<Neph Book>	<Nephi Ordinal> <Nephi Abbr>
<Nephi Ordinal>	1 2 3 4 I II III IV First Second Third Fourth 1st 2nd 3rd 4th 4rth
<Nephi Abbr>	N Ne Ne. Nep Nephi
<Jacob Book>	J Jb Jac Jac. Jacob
<Enos Book>	En En. Enos
<Jarom Book>	Jm Jar Jar. Jarom
<Omni Book>	O Om Om. Omni
<W of M Book>	WM WoM W of M Words of Mormon
<Mosiah Book>	Mos Mos. Mosiah
<Alma Book>	A Al Al. Alma
<Helaman Book>	H He He. Helaman
<Mormon Book>	Mn Mn. Mormon
<Ether Book>	E Eth Eth. Ether
<Moroni Book>	Mi Mor Mor. Moroni
<Chapter>	<Number>:
<Verse Range>	<Number> <Number> - <Number> <Number> - <Chapter><Number> <Number> - <Ref>
<Number>	<Digit> <Digit><Number>

Internal Representation: bcv triples and ranges

Internally, each verse is represented as a bcv triple of integers: (book, chapter, verse). There are two tables whose global names are LDS and RLDS. A triple is repeated if the corresponding entries in the other table have the same verse reference. For example, since (RLDS) 1N 1:1 converts to (LDS) 1N 1:1-2, the first two table entries are:

Index	LDS	RLDS
0	(1,1,1)	(1,1,1)
1	(1,1,2)	(1,1,1)

A range of verses is represented by a pair $[a,b]$ of indices with $a \leq b$. Each reference string is stored as a list of ranges, and the conversion is accomplished by recreating a reference string from the range list by looking up the indices in the appropriate table.