

Multiple Math Functions Plug-in

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This manual describes the use of the *Multiple Math Functions* Plug-in for thinkDB™ 2.0. For more information on thinkDB 2.0 and other thinkDB Plug-ins, please visit <http://www.thinkingbytes.com>. For information on additional thinkDB Plug-ins created by PDA Bytes, please visit <http://www.pdabytes.com>.

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1. thinkDB Plug-in Overview

A thinkDB Plug-in is simply an add-on program that fills a specific purpose in thinkDB. As such, they extend the functionality of thinkDB. For example, there is currently (as of thinkDB 2.0) no means to concatenate 2 Text fields together. If you have a tinyByte™ with a FirstName Text field and a LastName Text field, there is no facility for joining them together (concatenation) and having them appear as one field of "FirstName LastName" (or "LastName, FirstName"). A Plug-in can fill this void.

2. *Multiple Math Functions* Overview

a. Purpose:

The purpose of the *Multiple Math Functions* Plug-in is to perform any of the following calculations:

- Arc cosine
- Arc sine
- Arc tangent
- Cosine
- Sine
- Tangent
- Hyperbolic cosine
- Hyperbolic sine
- Hyperbolic tangent.
- Hyperbolic arc cosine
- Hyperbolic arc sine
- Hyperbolic arc tangent
- Natural logarithm
- Base 10 logarithm
- Base 2 logarithm
- Square root
- Hypotenuse
- Cube root
- Modulo remainder of x/y
- Power

All of the above functions require 1 input value except for Hypotenuse, Modulo remainder and

Power which require 2. Where appropriate, input must be in radians and output will be in radians.

b. Requirements:

This Plug-in requires the free MathLib library. MathLib is a Palm OS shared library which makes a complete set of IEEE-754 double-precision math functions available to other Palm applications. If you do not have MathLib.prc, you can download a zip file from <http://www.radiks.net/~rhuebner/mathlib.html> which contains MathLib.prc. Install MathLib.prc to your Palm as you install other Palm apps. To check to see if you have MathLib already installed on your Palm, simply look for it in App/Info. If you do have it installed, check to make sure that it is version 1.1 or later.

3. Installation

There are a couple of ways to install a thinkDB Plug-in (or any Palm OS application):

- a. Double-click the .prc file to be installed.
- b. Select Install from within Palm Desktop and choose the .prc file.

In both cases, the Palm™ Install Tool will then present a dialog to continue installation. After doing a HotSync®, the Plug-in will be installed into thinkDB and is ready for use. To verify that it was installed correctly, launch thinkDB on your handheld, choose Tools/Plug-in Manager from the thinkDB application menu. Tap the arrow beside "Plug-In:" and you should see the Plug-in listed. If not, repeat install instructions. If you do see it listed, it has been installed.

In addition to installing the actual Plug-in, it is important to install the special "Upgrade.prc" file. This is a special Plug-in that will be used when upgrading to different versions of thinkDB Plug-ins. If you have already installed this file once, it is not necessary to install it again.

4. Un-installing

To remove a Plug-in from thinkDB, first remove the Plug-in from all fields in all your tinyBytes. If you do not, you will encounter problems and could potentially corrupt data. Once you have removed all references of it from your tinyBytes, choose Tools/Plug-in Manager from the thinkDB application menu. Tap the arrow beside "Plug-In:", tap on the Plug-in you wish to remove, then tap the "Delete..." button.

5. Usage Overview

Before configuring any Plug-in, you must first create the fields that the Plug-in requires for both input and output. All of the above functions require a single float field for input values except for Hypotenuse, Modulo remainder and Power which require 2 float fields. The output is a single float field and a checkbox field. (Descriptions of these input and output fields follow.) After creating these fields, continue with the instructions for configuring the Plug-in to utilize these fields.

a. Upgrading from a previous version:

If you are upgrading from a previous version, the following is some special information to help you avoid problems. Before attempting to configure the Plug-in fields (step b. below), it is necessary to "un-configure" the Plug-in. To do this, please do the following steps:

1. From the Field Editor, select the small box to the right of the field you have previously selected as the Plug-in field.
2. From the Plug-in list, select *Upgrade* and press the OK button.
3. Select the small box to the right of the field you have selected as the Plug-in field.
4. Proceed with step b. 2. below

b. Configuring Plug-in fields:

1. Select a float field for all input fields and a float field for "Results in:"..
2. From the Field Editor, select Field Type ThinkDB Plug-in from the Field Type list. Selecting the small box to the right will then open the Field Properties dialog.
3. From the Plug-in list, select *MultiMath*. Four fields will appear, "Select function", "Input 1", "Input 2" and "Results in:".
4. Tap on the arrow to the right of "Select function" to choose the math function you wish to use.
5. Select a float field for the other input fields.
6. Selecting the small box to the right of "Results In" will allow you to choose the field for storing the result of the calculation, as well as the checkbox field that will be your indication if the *Multi-Math* Plug-in has successfully run.

c. Running the Plug-in:

There are 2 methods for having any Plug-in perform its duties:

1. Place the "plugged-in" field onto a form and tap it.

2. "Apply" the Plug-in from the "Filtered Operations" screen (which is one of the menu options that appears by tapping on the "tool" icon).

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