The module <FLibMath> of the subsystem “Specials” <FLibMath>

Module:	FLibMath
Name:	The library of standard mathematical functions.
Type:	Specials
Source:	spec_FLibMath.so
Version:	0.6.0
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Translated:	Maxim Lysenko
Description:	Provides the library of standard mathematical functions.
License:	GPL

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Introduction

Special FLibMath module provides the library of standard mathematical functions into the system.

To address the functions of the library you can use static call address "**Special.FLibMath.{Func}()**" or dynamic "**SYS.Special.FLibMath["{Func}"].call()**", "**SYS.Special.FLibMath.{Func}()**". Where *{Func}* — function identifier in the library.

1. Functions

Table 1 provides a description of each function of the library. For each function the evaluation time of execution is measured. The measurement was made on a system with the following parameters: Athlon 64 3000 + (ALTLinux 3.0 (32bit)), by measuring the total time of execution of the function, while calling it 1000 times.

Table 1: The functions of the library of standard mathematical functions

Id	Name	Description	Time (micro-seconds)
abs	Module	Math. function – the number module.	81
acos	Anti-cosine	Math. function – anti-cosine.	149
asin	Anti-sine	Math. function – anti-sine.	140
atan	Anti-tangent	Math. function – anti-tangent.	109
ceil	Rounding up to a larger	Math. function – rounding up to a larger integer.	96
cos	Cosine	Math. function – cosine.	93
cosh	Hyperbolic cosine	Math. function – hyperbolic cosine.	121
exp	Exponent	Math. function – exponent.	145
floor	Rounding to the lower	Math. function – rounding to the lower integer	95
if	If Condition	Condition function – “If”.	92
lg	Common logarithm	Math. function – common logarithm.	168
ln	Natural logarithm	Math. function – natural logarithm.	185
pow	Power	Math. function – involution.	157
rand	Random number	Math. function – random number generator.	147
sin	Sine	Math. function – sine.	127
sinh	Hyperbolic sine	Math. function – hyperbolic sine.	199
sqrt	The square root	Math. function – the square root.	94
tan	Tangent	Math. function – tangent.	153
tanh	Hyperbolic tangent	Math. function – hyperbolic tangent.	177

2. User programming API

Some objects of the module provides functions for user's programming.

The object "Functions library" (SYS.Special.FLibMath)

- *ElTp {funcID}(ElTp prm1, ...)* — call the library function *{funcID}*. Return result of the called function.

The object "User function" (SYS.Special.FLibMath["funcID"])

- *ElTp call(ElTp prm1, ...)* — call the function with parameters *<prm{N}>*. Return result of the called function.