**Introduction**

Definitions

* *Function* – Takes one or more arguments and evaluates to a single number
* *Operator* – A mathematical function that has two arguments and is written in infix notation
* *Operand* – A numerical argument to an operator
* *Expression* – A syntactically correct string of numbers and operators
* *Result* – The evaluation of an expression
* *Field* – A textbox that acts as a display for expressions

Purpose

The purpose of this document is to specify the requirements of the client-requested calculator. This document tries to state all necessary user and system requirements and will act as a guideline for system developers.

**System Requirements**

Properties

Compatible Platforms: Windows, OS X, Linux, Android

Language: Java SE 8

**User Requirements**

# Calculating Expressions

Operators

All conventional operations are supported along with the modulus operator as well. Below is a table that specifies each operation's related symbol and precedence. For precedence, 1 is the “highest”, and 3 is the “lowest”. All operators are left-associative.

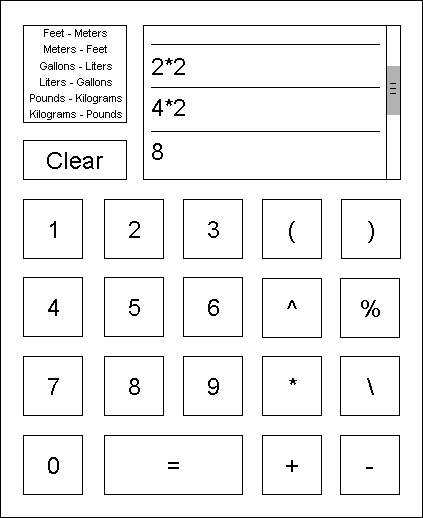
|  |  |  |
| --- | --- | --- |
| Operator | Symbol | Precedence |
| Exponentiate | ^ | 1 |
| Multiply | \* | 2 |
| Divide | / | 2 |
| Modulo | % | 2 |
| Add | + | 3 |
| Subtract | - | 3 |

Output

Each result will be a double-precision floating-point number with up to 10 digits of precision.

# Interface

Design



Functionality

* The six conversion functions can take an expression or result as an argument and will output a converted number in the appropriate units.
* If the field is empty, all conversion functions will be disabled.
* A result can be an operand in a new expression.