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work begun and job well done®*

# LLAMA

## User's Guide

June 2019

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This guide is online at: [http://docs.8acsystems.cloud/LLAMA\\_ForMac\\_UG.pdf](http://docs.8acsystems.cloud/LLAMA_ForMac_UG.pdf)  
(Choosing "User's Guide" from Printpointment's *Help* menu  
will open the PDF file in your default web browser.)

## Introduction

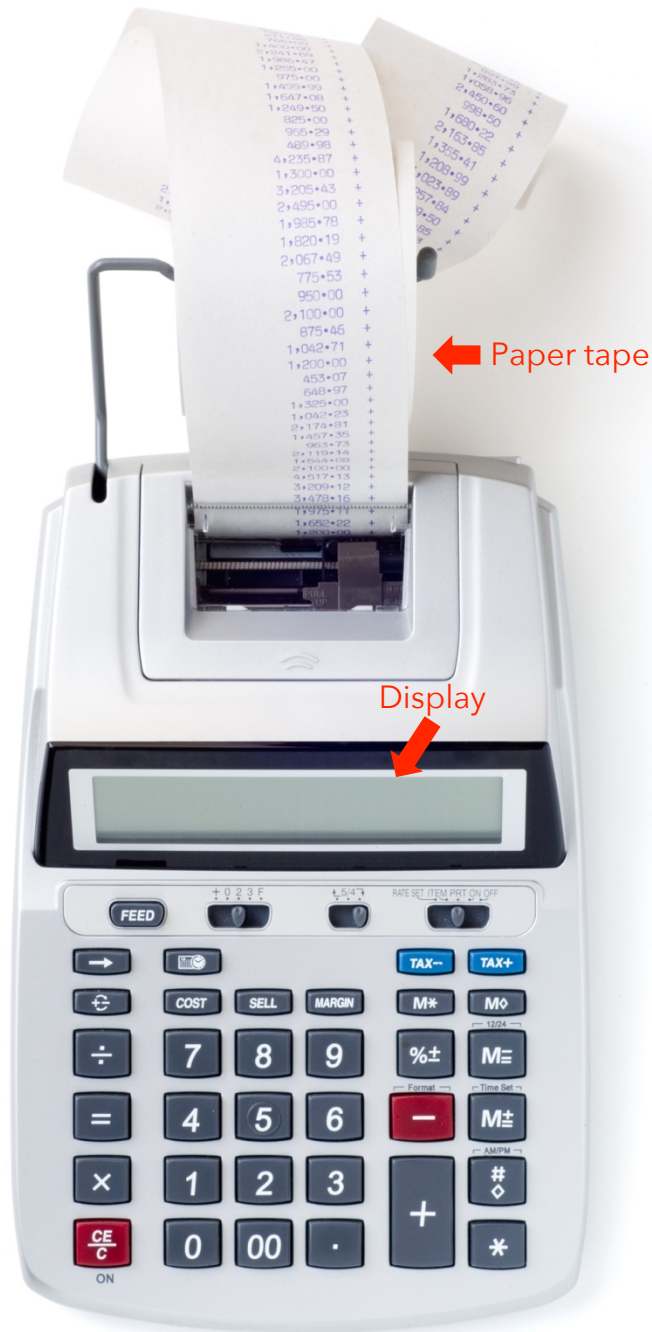
Hi there! We're really glad you're taking the time to get to know LLAMA, the Li'l, Likeable Adding-Machine App. Doing so will enable you to take full advantage of the efficiency it offers. Unlike a conventional calculator, an adding machine is specialized for bookkeeping, which may include activities like balancing your checkbook, doing your taxes, or recording your business's financial transactions. In addition, LLAMA further refines the adding machine.



Antique adding machine

Burroughs portable, circa 1927

# LLAMA User's Guide



Modern, "10-key" adding machine

Display is empty because adding machine is off

## On the Surface

In essence, an adding machine is a device that totals monetary values.

## Under the Hood

The heart and soul of an adding machine is the *accumulator*, which keeps a running total of additions to and subtractions from itself.

## LLAMA Basics

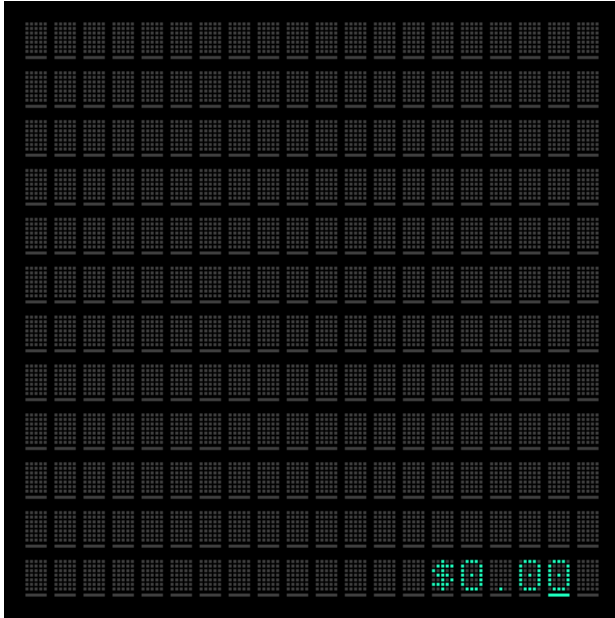
LLAMA is a "10-key," 12-digit, PQRS\* calculator that makes short work of number-crunching tasks. It runs on macOS Sierra (version 10.12) or later.

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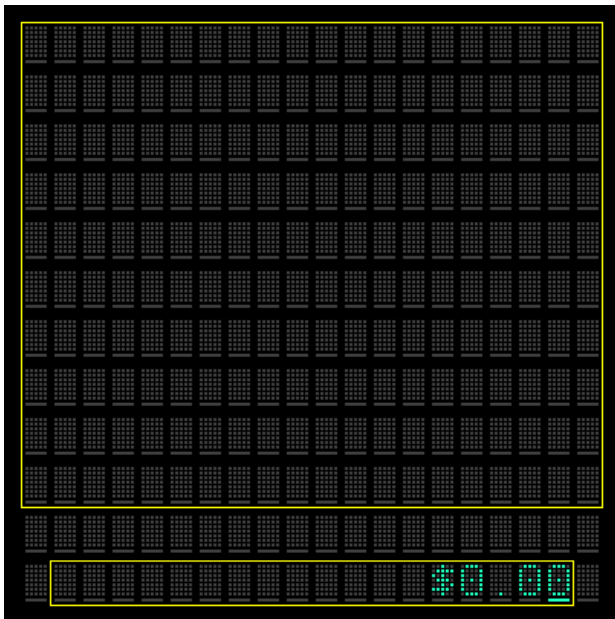
\*Product, Quotient/Remainder, and Sum

## More Than Meets the Eye


LLAMA's simulated (20 × 12)-character vacuum fluorescent display (VFD)





has a 10-line window into a 100-line scrolling and scrollable "tape" and an 18-character "display". The cursor indicates where input will appear.




## Clear

 – The **Clear** key instructs LLAMA to zero out the accumulator and, if applicable, abort any multiplication or division that's in progress.

## Clear Tape

 +  – The **Clear Tape** key combination instructs LLAMA to empty the tape.

 The **Up Arrow** key in the **Clear Tape** key combination is reminiscent of the outward motion required to tear the paper tape off a real adding machine.

## Reset

To reset LLAMA to its startup state, press (and release) the **Clear Key**, then press the **Clear Tape** key combination.

## Data Entry

**0** through **9** – The **Digit** keys instruct LLAMA to form a monetary value or whole number, as appropriate, from the numeric input.

**option**+**0** – The **Double Zero** key combination instructs LLAMA to behave as though the **0** key were pressed twice.

**|** – The **Change Sign** key instructs LLAMA to multiply the monetary value shown on the display by  $-1$ .

**delete** – The **Backspace** key instructs LLAMA to remove the rightmost digit of the monetary value shown on the display.

**Esc** / **clear** – The **Clear Entry** key instructs LLAMA to zero out the monetary value shown on the display.

## Addition and Subtraction

**+** – The **Add** key instructs LLAMA to add the monetary value shown on the display (the *addend*) to the value in the accumulator (the *augend*).

**-** – The **Subtract** key instructs LLAMA to subtract the monetary value shown on the display (the *subtrahend*) from the value in the accumulator (the *minuend*).

**i** Instead of displaying the running total after each addition or subtraction, LLAMA maintains an input-centric focus.

**enter** / **return** – The **Total** key instructs LLAMA to output, **then zero out**, the value in the accumulator.



## Learn by Doing

For a full understanding of LLAMA, do the following six exercises. Don't skip the "Practice It" exercises – they build on the "Try It" exercises. By the way, we reset LLAMA to its startup state before beginning each exercise.

### Try It #1

Calculate  $\$1.23 - \$4.56 + \$7.89$ .

To enter  $\$1.23$ , you simply type   , and LLAMA takes care of formatting it for you. Add it to the accumulator by pressing .

Type    and subtract it from the accumulator by pressing .

By now, you know the drill: Type    . Lastly, press  or  to display the result and clear the accumulator.

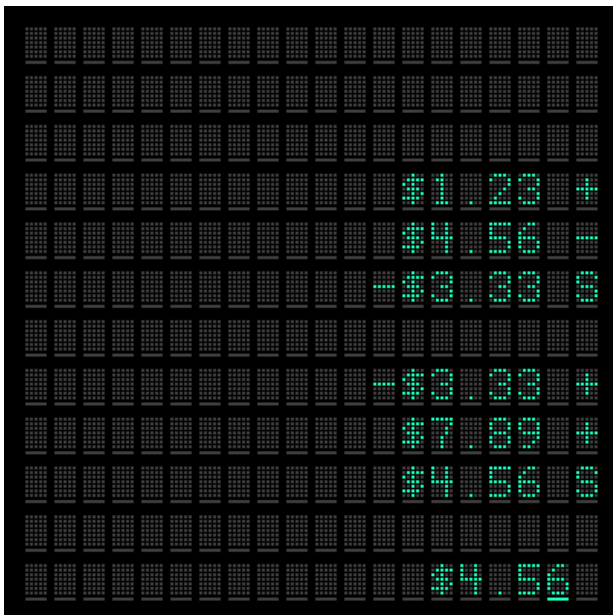


## Practice It #1

Let's see not only the final result but also the intermediate one. Type    , followed by    , then press  or .



Add the intermediate result to the (zeroed out) accumulator by pressing . Type    , then press  or .



## Try It #2

Calculate  $\$1.99 \times 5$ .

LLAMA's an adding machine, so let's add!

Type        , then press  or .

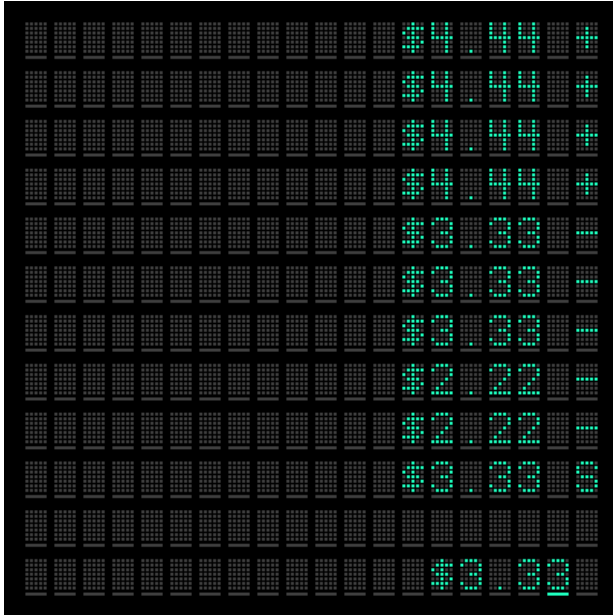


## Practice It #2

Calculate  $\$4.44 \times 4 - \$3.33 \times 3 - \$2.22 \times 2$ .

Type                  .

Press  or .



## Multiplication and Division

LLAMA can multiply or divide a monetary value by a whole number.

**\*** – The **Multiplication** key instructs LLAMA to multiply the monetary value shown on the display (the *multiplicand*) by the following whole number (the *multiplier*).

**/** – The **Division** key instructs LLAMA to divide the monetary value shown on the display (the *dividend*) by the following whole number (the *divisor*).

**=** – The **Equals** key instructs LLAMA to evaluate a multiplication or division expression.

**i** The remainder is shown on the tape only when the divisor doesn't divide the dividend evenly.

## Try It #3

Calculate  $\$1.99 \times 25$ .

Whoa, that's way too many pluses to count precisely! Time to multiply.

Type       .



## Practice It #3

Just remember, the monetary value shown on the display can always be an addend, subtrahend, multiplicand, or dividend.

Calculate  $\$3.00 + (\$4.00 \times 3) - \$5.00$ .

Type               .

Press  or .



## Clipboard

To copy the contents of the display (sans dollar sign and thousands separators) to the macOS clipboard, choose “Copy” from the Edit menu or press `command` + `C`.

## Tape Control

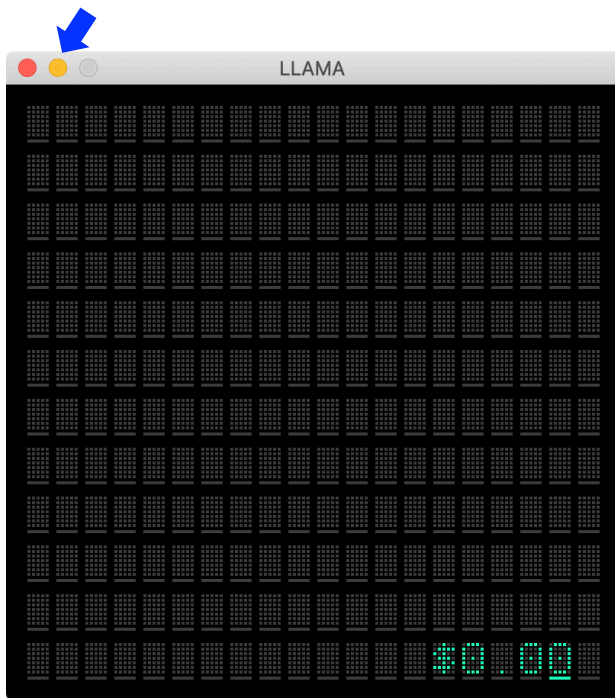
`▲` – The *Up Arrow* key scrolls the tape *down* one line at a time.

`▼` – The *Down Arrow* key scrolls the tape *up* one line at a time.

`home` / `option` + `▼` – The **Home** key (combination) returns the tape to its home position. LLAMA automatically performs this action whenever it outputs a new line to the tape.

## Minimize

To minimize LLAMA to the Dock, choose "Minimize" from the Window menu, press `command` + `M`, or click the **yellow** "traffic-light" button on LLAMA's title bar.



## Quit

To quit LLAMA, choose "Quit LLAMA" from the LLAMA menu, press `command` + `Q`, or click the **red** "traffic-light" button on LLAMA's title bar.