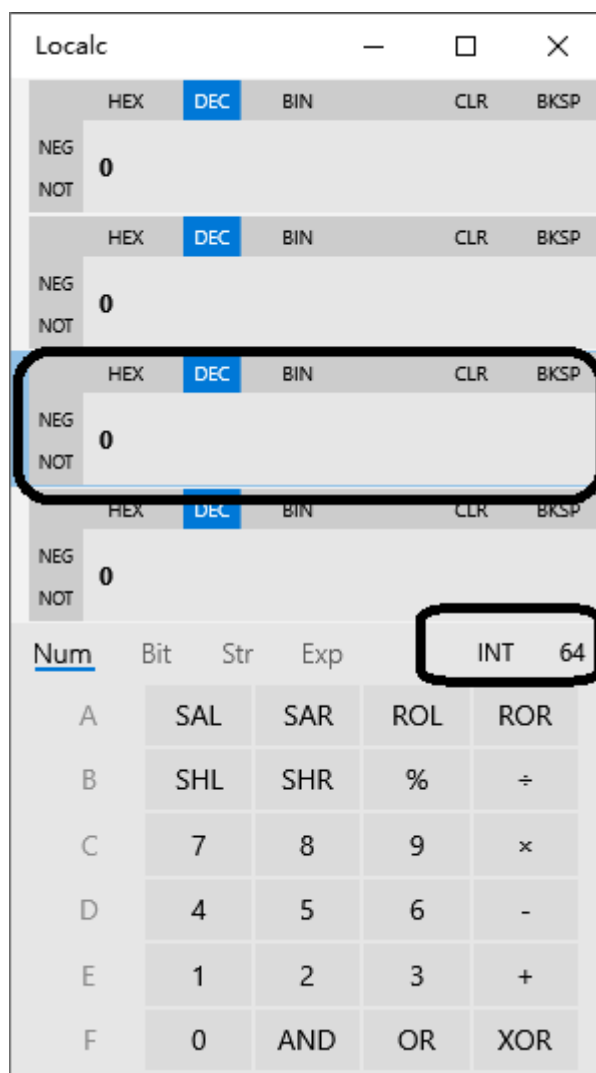


# Localc

A light but powerful calculator for coding and debugging.

## Getting started

Localc has four number-boxes for storing operands, we can switch display-format between hexadecimal, decimal and binary.

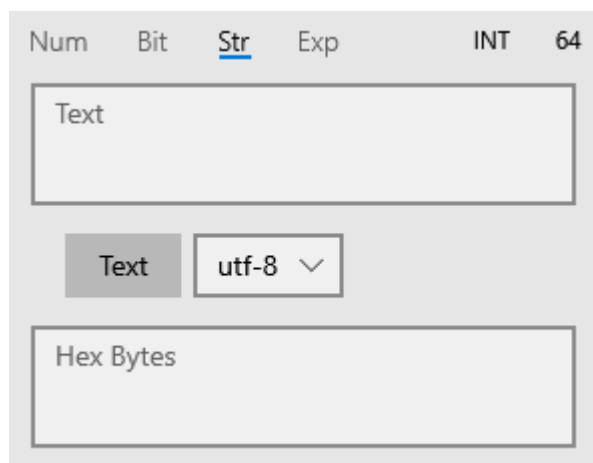


As shown in the illustration, a number-box contains all buttons for unary-operations, such as NEG(negation), NOT(bitwise NOT), CLR(clear), and BKSP(backspace).

For binary-operations, Localc follows these calculating rules:

- Binary-operations act on the operands stored in the selected number-box(first operand) and the next number-box(second operand).
- The result will be stored in the selected number-box.
- If we select 4th number-box, the operand stored in it deemed the second operand, and the result will be stored in 3th number-box.

## Conversion between strings and bytes



It is very easy to convert string to hex-bytes or convert hex-bytes to string with the selected codepage.

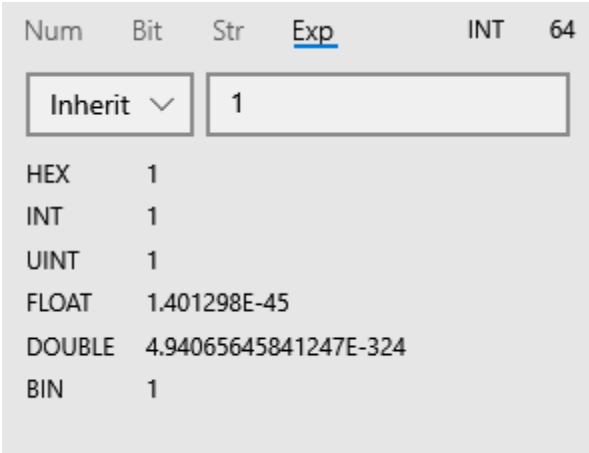
The element in hex-bytes-string can be space(0x20), comma(,) and hex-number. A Hex-number MUST contains and only contains two hex-digits, the '0x' prefix could be ignored.

For example, "0x01,0X02,03 04 F2" is a correct format, but "01 02 3 04" is incorrect.

The button in Str-pad specifies that whether string or hex-bytes-string is converted from when codepage selection is changed. Click the button to toggle between Text-

mode or Bytes-mode.

## Calculating expressions



The combo-box specifies the integer type for expression calculating. “Inherit” means that Localc will use global integer type (Int64, in illustration) to calculate expressions. But you can also change it to other independent value.

## Tokens

**All tokens ignore case.**

+	ADD	
-	SUB or NEG	NEG does not support the unsigned integer
*	MUL	
/	DIV	
%	MOD	
&	Bitwise AND	
	Bitwise OR	
^	Bitwise XOR	

~	Bitwise NOT	
<<	Bitwise SHL or SAL	
>>	Bitwise SAR	
>>>	Bitwise SHR	
<	Bitwise ROL	
>	Bitwise ROR	
(	Left bracket	
)	Right bracket	
max	Constant, the max value of current integer type.	
min	Constant, the min value of current integer type.	
<p>Integer number in expression allows ‘_’ and ‘,’ separators. “1,2_3” is a corrent dec-integer.</p> <p>For hex number, “0x” prefix is required. But if a hex number contains A-F digits, prefix should be ignored.</p>		

## Floating-point mode

If an expression starts with a single quotation mark ( ‘ ), all numbers in this expression will be treated as floating-point numbers. Starts with two single quotation marks, or a double quotation mark means all numbers in expression are double floating-point numbers.

Num
Bit
Str
Exp
INT
64

Inherit
" 0.1+1E2+E+sqrt(4)

HEX
405A345EBA8F0921

INT
4637076347795999009

UINT
4637076347795999009

FLOAT
-0.001457486

DOUBLE
104.818281828459

BIN
10000000101101000110100010111101  
0111010101111110000100100100001

In floating-point mode, hex-integer number and bitwise operations are unavailable, but some new features are enabled.

Inf	Floating-point Infinity
$\infty$	Floating-point Infinity
nan	Floating-point NaN
pi	Mathematical constant $\pi$
e	Mathematical constant E
pow	Pow(v1,v2)
exp	Exp(v)=Pow(e,v)
acos	Acos(v)
asin	Asin(v)
atan	ATan(v)
cos	Cos(v)
cosh	Cosh(v)
sin	Sin(v)
sinh	Sinh(v)
tan	Tan(v)

tanh	Tanh(v)
sqrt	Sqrt(v)
log	Log(v1,v2)
lg	Lg(v)=Log(10,v)
ln	ln(v)=Log(e,v)
lb	lb(v)=Log(2,v)
ld	ld(v)=Log(2,v)
floating-point number Format Examples: <ul style="list-style-type: none"> <li>• -0.1</li> <li>• .2</li> <li>• 1E3</li> <li>• 1E+3</li> <li>• 1E-3</li> </ul>	

## Drag-Drop System

You can drag a number-box and drop it on another number-box to swap values.

By pressing Shift-Key, the drag-drop operation copies the value from source number-box to target number-box.

And pressing Control-Key to reorder the number-boxes.

You can also drag a number-box to Exp-pad, and the result-area(if it is not empty or invalid value) in Exp-pad can be dragged to any number-box too.

## Shortcuts

0 - 9	0 - 9	Not available in Str-pad or Exp-Pad
A - F	A - F	Not available in Str-pad or Exp-Pad
Escape	CLR	Not available in Str-pad or Exp-Pad
Backspace	BKSP	Not available in Str-pad or Exp-Pad
NumberPad+	ADD	Not available in Str-pad or Exp-Pad
NumberPad-	SUB	Not available in Str-pad or Exp-Pad
NumberPad*	MUL	Not available in Str-pad or Exp-Pad
NumberPad/	DIV	Not available in Str-pad or Exp-Pad
Control+ C	Copy	Not available in Str-pad or Exp-Pad
Control+ V	Paste	Not available in Str-pad or Exp-Pad
Control + X	Copy and set value to 0	Not available in Str-pad or Exp-Pad
F1	Select 1st number-box	
F2	Select 2nd number-box	
F3	Select 3rd number-box	
F4	Select 4th number-box	
F5	Toggle between signed/unsigned	
F6	Change global integer size.	
F9	Hex	
F10	Dec	
F11	Bin	