B1 - Unix & C Lab Seminar

Bistro-matic

Kind of Basic Calculator

Bistro-matic

binary name: calc
language: C
compilation: via Makefile, including re, clean and fclean rules

- The totality of your source files, except all useless files (binary, temp files, obj files,...), must be included in your delivery.

- All the bonus files (including a potential specific Makefile) should be in a directory named *bonus*.

- Error messages have to be written on the error output, and the program should then exit with the 84 error code (0 if there is no error).

The goal of this project is to write a program that will display the result of an evaluated mathematical expression. The expression will be composed of infinite integers that can be expressed in any base.
The program must handle the following operators: +-*/%, parentheses, operation priorities and syntax errors, but not float numbers.

man bc

```
∇                            Terminal                        –  +  x
~/B-CPE-101> ./calc -h
USAGE
./calc base operators size_read

DESCRIPTION
- base: all the symbols of the base
- operators: the symbols for the parentheses and the 5 operators
- size_read: number of characters to be read
```

If a syntax error occurs, the program must display the string defined by the `SYNTAX_ERROR_MSG` macro.
For any other error, the program must display the string defined by the `ERROR_MSG` macro.

The libC is forbidden, except the following functions: `read, write, malloc, free, exit.`

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{ EPITECH. }

```
 ▽                                  Terminal                                  – + X
~/B-CPE-101> echo '3+6' | ./calc 0123456789 '()+-*/%' 3 ; echo
9
~/B-CPE-101> echo '3v6' | ./calc 0123456789 '{}vwxyz' 3 ; echo
9
~/B-CPE-101> echo '----++-6(12)' | ./calc 0123456789 '()+-*/%' 10 ; echo
syntax error
~/B-CPE-101> echo '----++-6*12' | ./calc 0123456789 '()+-*/%' 11 | cat -e ; echo
-72
~/B-CPE-101> echo '-(12-(4*32))' | ./calc 0123456789 '()+-*/%' 12 | cat -e ; echo
116
~/B-CPE-101> echo '-(e@-(;*!@))' | ./calc '0A@!;ie& ]' '()+-*/%' 12 | cat -e ;
echo
ee
~/B-CPE-101> echo '-(12*(13+15/5*(6/(12+14%(30%5+(10*25)-46)+16)-20)/43)*20)
*(-(12-98*42)*(16+63-50/3))' | ./calc 0123456789 '()+-*/%' 84 | cat -e ; echo
-744629760
```

The given `main.c` and `bistromatic.h` files are given *as-is*, feel free to use them (or not).
They are not guaranteed to be fully compliant with the coding style.