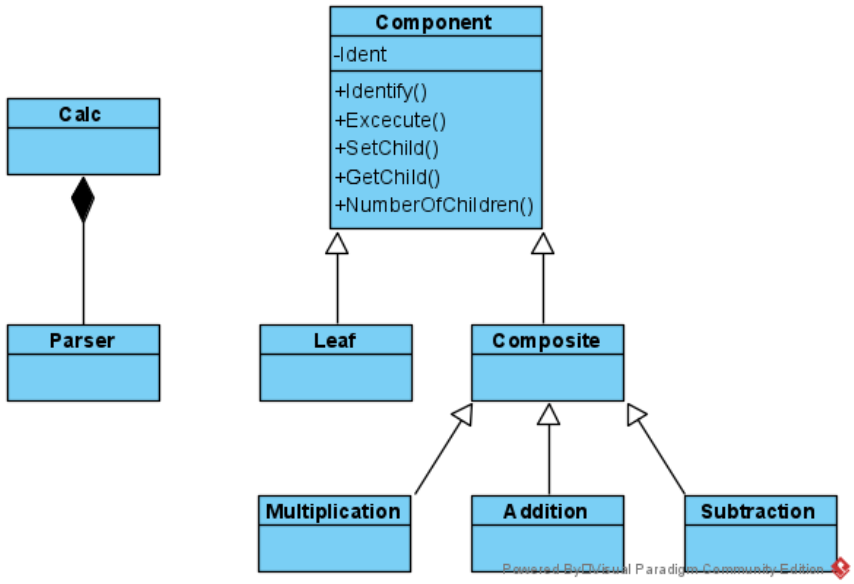
Calculator

The user can write a mathematical expression, and the program will calculate the answer. The program uses the grammar defined in the parser, to create an abstract syntax tree(Composite pattern). After the abstract syntax tree is created, the program will automatically call the Execute function on the root node, that traverses throughout the entire abstract syntax tree. The program can be expanded with "()" and variables, that will create an even higher level in the grammar.



The program creates an instance of Calc, from main located in file "Calculator.h". Calc contains a parser, the parser creates Components.

Grammar

Expression:

- Term
- Expression + Term
- Expression – Term

Term:

- Primary
- Term * Primary

Primary:

- Number
- "(Expression)" // if "()" is added to the program

Number:

- Floating point