

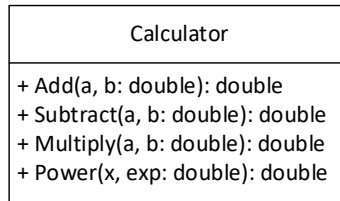
Lab Exercise: Hand-testing class Calculator

In this exercise, you will implement a class `Calculator` that can perform some very simple arithmetic operations. Then, you will test the class as well as you can by means of the methods tools you are used to use (i.e., hand-testing from `Main()`).

NOTE: We are going to use the class `Calculator` in the next lab exercise, so be sure to finish this exercise before class.

Exercise 1:






Implement the class `Calculator` according to the UML class diagram given below.



- Add(a, b) shall return the sum of a and b, $a + b$
- Subtract(a, b) shall return the difference of a and b, $a - b$
- Multiply(a, b) shall return the product of a and b, $a * b$
- Power(x, exp) shall return x raised to the exp^{th} power, x^{exp}

Exercise 2:

Test the class `Calculator` as well as you can. As you do, consider the following:

- How are you going to test the different operations?
 - Which different tests do you need for each operation? 
 - What are the expected outputs of the tests? 
 - How are you going to run the tests so that you can check that each test passes, i.e. that the output of the operation under test is as expected? 
- How well does your test method *scale*?
 - If you introduce many more tests or many more operations in `Calculator`, is your test method still practically usable? 
- What could make your life easier?
 - Considering the above (especially 2.), what could make your life easier? What would you require of a tool to help you? 
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