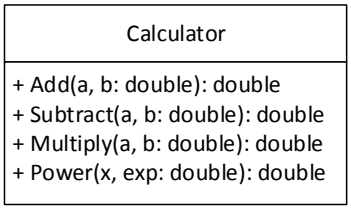
Lab Exercise: Hand-testing class Calculator

In this exercise, you will implement a simple class `Calculator` which can perform some very simple arithmetic operations. Then, you will do your utmost to test the class as well as you can using the tools you are used to use.

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 operations?
  - What different tests (we call them *test cases*) do you need for each operation
  - How are you going to run the tests so that you can check that each test case succeeds, 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, is your test method still usable?