

## Homework 3

### DESIGN PATTERNS

In this homework, you are required to use the state design pattern to implement a simple calculator. The calculator will accept only *positive integer numbers* and *two types of operators, + and -*. For example, an input could be  $9 + 10 + 10 - 2$

1. You should design the state machine first and then translate it into the state design pattern
2. Your calculator must compute correctly the expression
3. You must handle the cases where users type in invalid inputs (e.g. 10.3 or \*)

You can work in a group of 2 students or by yourself.

Please submit your resulting code and a short Word document explaining the rationale behind your code. Please note the names of your partners whom you work with in this homework.