



## UNIT TESTING WORKSHOP

### Alarms TDD Kata

#### Background

You are tasked with writing code for a process monitoring application. You are measuring pressure in a tank. If the pressure deviates too much from the setpoint, bad things happen. If the actual pressure deviates from the setpoint by more than 5% (of the setpoint), then a warning should be sounded. If it deviates by more than 10% then an alarm should be sounded.

#### Part 1

Use TDD to create a VI to calculate the Alarm Status. Finish part 1 first before reading Part 2

HINT: Use a fixed setpoint and pick one that makes the math easy.

#### Inputs

Setpoint (DBL) – Assume always >0

Actual Value (DBL) – Value read from sensor

#### Outputs

Alarm Status (string) - Value in range -> "OK"

Warning -> "Warning"

Alarm -> "Alarm"

## Part 2

The alarm system works well, but there is a problem. The operators have to take different actions depending on if the level is too high or too low. To make it easier for the operators, add a feature to append “ too low” or “ too high” to the Alarm Status output for alarm and warning conditions to indicate if the output is too low or too high.

Alarm Status (string) - Value in range -> “OK”

Warning -> “Warning too low” or “Warning too high”

Alarm -> “Alarm too low” or “Alarm too high”