

Exercise 4: Procedures versus Call Backs

Winter Term 2018/19

As opposed to regular C-style programming, graphical user interfaces adopt the idea of call-back functions. This exercise is supposed to give you some ideas about this scheme.

Unit 1: Implement a regular C-function that simulates a regular traffic light. The functions output should be in ASCII; a complete cycle may look as follows:

```
R_._  
R_Y_.  
_._G  
_Y_.
```

with R, Y, G indicating red, yellow, and green, and _ indicating a blank or a dot. Your function should print three complete cycles.

Unit 2: Convert your function into a call-back function. To this end, the function has to remember its own “state”. In each call, the function should print its current state and should advance to the next one.

Question: What parameters does this function require?

Unit 3: Convert your function from the previous unit into a regular C++ class.

Have fun, Theo and Ralf