



Computer Architecture II - WS 08/09
Exercise Sheet 10 (due: 21.01.09)

Excercise 1: (Onbus) (3 Points)

Let :

$$y \in \{0, 1\} \quad \text{and} \quad k \in [0 : 6]$$

To be proven:

$$\text{onbus}(y, e_s(i), \tau_s) \Rightarrow \exists \beta \in \{0, 1\} : y = R^{cy(i)+\beta+k}$$

Excercise 2: (Lemma 2') (3 Points)

Let:

$$k \in [0 : 300]$$

To be proven:

$$cy(i+k) \in cy(i) + k + [-1 : 1]$$

Excercise 3: (Control Signal *Running*) (4 Points)

In the lecture the control signal *running* was not defined. Define this signal and show that the Lemma 6.1 still holds.

Recall: This signal is one of those signals controlling the receiver automaton transaction from *Idle* state to TSS state.

Excercise 4: (No Control Signal *Running*) (5 Points)

Assume that there is no control signal *running* in the receiver implementation at all. Then we need to modify the receiver implementation. Modify the receiver implementation and show that Lemma 6.1 still holds.