

# Real-Time Systems Labs

## Some Useful Information

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# Your (Friendly) Lab Assistants



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- Labs: 1 (Ada) and 4 (UPPAAL)

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- Labs: 2 (LEGO) and 3 (RTA)



# Labs Overview

- The course offers 4 labs:
  - ① Real-Time Programming using Ada
  - ② Programming in RTOS using LEGO Mindstorms NXT (\*)
  - ③ Response Time Analysis using FpsCalc
  - ④ Modeling and Verification using UPPAAL (\*)
- (\*) *Only necessary for 10hp!*
- Lab reports:
  - ▶ To corresponding submission page of course page in studentportalen, before deadline
  - ▶ Grades: “G” (passed), “K” (komplettering), “K?” (come to office)
  - ▶ Your goal: Eventually getting “G” for all labs
- Bonus points:
  - ▶ Up to 2.5 points for each lab (i.e. 10 points in total)
  - ▶ added to decide the course grade (if you pass everything without it)
  - ▶ Only for your *first* hand-in (not for “komplettering”)

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# Groups

- Form groups of 3 students
- 10hp groups vs 5hp groups
- Do all four (two) assignments in your group
  - ▶ For changes: talk to us

# Some Suggestions/Hints

- Lab preparations:
  - ▶ Receive university mail (for announcements)
  - ▶ Working (!) Unix-Account
  - ▶ Basic knowledge of shell and an editor of your choice
  - ▶ Basic C knowledge (for LEGO lab)
- Lab reports:
  - ▶ Machine written
  - ▶ Check spelling and grammar!
  - ▶ Format your code!
    - ★ ... and comment it!
  - ▶ *The "Would my boss accept this?" test*

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# Labs Reports: Hand-In Quality

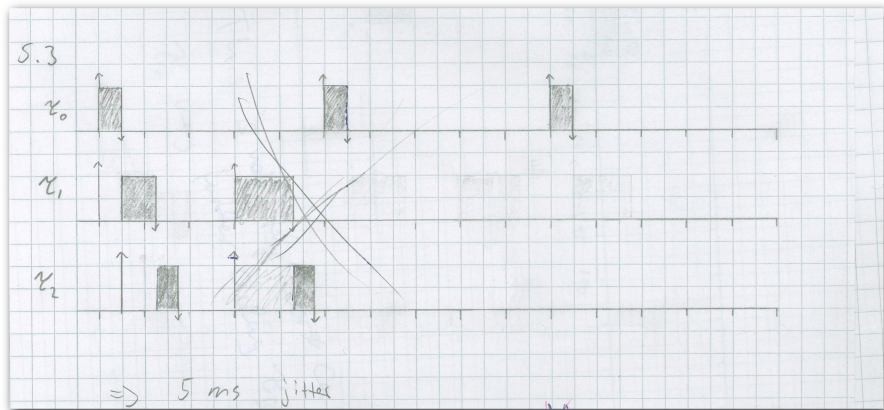
How *not* to do it

```
head_point:= head_point + 1;
else
head_point := 1;
end if;
end if;
end FIFO_put;
or
accept FIFO_pull (output_value : out INTEGER; is_empty : out BOOLEAN ) do
if elements_count = 0 then
is_empty:= true; -- queue empty
else
is_empty := false;
output_value := Int_Buffer(tail_point);
elements_count := elements_count - 1;
if tail_point /= max_length then
tail_point:= tail_point + 1;
else
tail_point:= 1;
end if;
end if;
end FIFO_pull;
or
accept close do
stop := true;
end close;
or
accept check_for_close ( is_stop : out BOOLEAN) do
is_stop := stop;
```

*Would your boss accept this?*

# Labs Reports: Hand-In Quality (cont.)

How *not* to do it



*Would your boss accept this?*

# Plagiarism

- *Don't cheat.*
  - ▶ Proper references
  - ▶ No code copy from other groups or the Internet
    - ★ Doesn't mean you can't discuss stuff
  - ▶ Active group participation
- More info: <http://www.it.uu.se/edu/fusk>

# The End

## Questions?