LiU’s pedagogic days

Challenges of using individual home assignments in a first year programming course

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1 Mini presentation proposal’s summary

I am lecturer at the Department of Science and Technology (ITN) and I have a PhD degree in Computer Science. Since 2011, I am the course responsible (and examiner) of a first year programming course (TND012) offered simultaneously to three engineering study programmes, Media Technology (MT), Electronic Design (ED), and Communications, Transport, and Infrastructure (KTS). The course usually has about 160 first year students registered and requires no previous knowledge in programming.

Teaching programming to novices is difficult and experience shows that programming is a big hurdle for many first year students. For several years, the number of students who failed the course in the first exam could be as high as 55%. To tackle this problem several individual home assignments were introduced in the course as a tool for both continuous feedback and assessing course goals.

The aim of this mini talk is twofold. Firstly, I present my experience with using individual home assignments in a first programming course with a large number of students and which positive impact it has had in the course so far. To my knowledge this is the only programming course at the university that uses individual home assignments that can give approval in the course. Secondly, I would like to take this opportunity to discuss with other colleagues the challenges and open problems I have identified in using individual home assignments in the course.

If there is interest, I am available to give the mini presentation both in Norrköping and Linköping.