Adding testing to ASK-ELLE
— Demonstration —

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Abstract. In this demonstration we will introduce ASK-ELLE[1], a Haskell tutor. ASK-ELLE supports the incremental development of Haskell programs. It can give hints on how to proceed with solving a programming exercise, and feedback on incomplete student programs. ASK-ELLE checks that a student follows one of the model solutions provided by a teacher. It can recognise many incomplete variants of the model solutions, but if a student implements an incorrect solution, or a solution that differs from the model solutions, ASK-ELLE cannot give feedback. For this reason, we have added testing to ASK-ELLE. QuickCheck is a property-based testing framework, that tries to generate counterexamples for properties. For each problem in ASK-ELLE, we specify its properties as QuickCheck properties. If we cannot categorize an incomplete student program as part of a model solution, we use QuickCheck to try to generate a counterexample for the program, and report the counterexample to the student. Besides a general demo of ASK-ELLE, we will demonstrate the new feature that uses testing to check that incomplete programs are still correct. We will show ASK-ELLE in action, and discuss how a teacher can configure its behaviour.

[1] http://ideas.cs.uu.nl/ProgTutor/