

Using OWL for an Introductory Java Programming Class

OWL for Java consists of close to 500 questions. Questions are web-based and are graded automatically by OWL so that students see feedback and results immediately after submitting an answer to a question. Students can redo a question if they get it wrong.

OWL Assignments

OWL questions are grouped into assignments that match the chapter structure of your text. Some of the questions are objective type questions (true/false, multiple choice, matching, fill-in-the-blank.) Some of these are parameterized, so that different students see different versions of the questions, and a single student sees a new version of a question when redoing it. Other questions, approximately half of the material, are programming questions. For these, OWL accepts code submissions from a student, and in a few seconds, compiles and runs the code, judges it for correctness, and provides students with meaningful feedback.

OWL Use for Homework

Typically OWL is used as one part of the homework component of a Java programming class. It is not meant to replace programming assignments in which students write complete applications or applets from scratch.

Experience has shown that it is best if OWL constitute 10-15% of the student's overall course grade. This weighting makes the OWL material worth doing but not so significant that students in great numbers are driven to cheating.

Student collaboration, where students work out OWL problems in groups, has also been shown to be beneficial to student learning. Indeed, students still need to submit their own answers to OWL questions. We've found that by adding the requirement that a student must pass the final exam in order to pass the class helps to convince students that mastering OWL material is important.

OWL Use in Captive Labs

If there's a lab portion of your class in which all students are present at a computer lab, some of the OWL assignments can be used as lab exercises instead of homework. In places, groups of problems are linked together in such a way that they form mini-projects, and these are an especially good vehicle for teaching in the lab.

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