The Beauty and Joy of Computing

Laboratory Exercises

Lab Manual by
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Introduction to Lab Exercises

The lab exercises in this packet are designed for the Beauty and Joy of Computing class (CSC 100) at the University of North Carolina at Greensboro. This class is part of a nationwide effort to re-think how students are introduced to computer science concepts - this project is referred to as the "CS Principles" project (see http://www.csprinciples.org) and several universities have experimented with specific classes as part of this project. Our class at UNCG is based on the class of the same name (The Beauty and Joy of Computing) at the University of California at Berkeley and the University of North Carolina at Charlotte, and while the writeups in this lab booklet were all created specifically for the class at UNCG, many ideas were borrowed from or inspired by these other classes.

Each lab exercise contains background information, specific activities, and discussion. Ideally, students will read the background information and scan the activities prior to coming to the lab, so they know what to expect, and use time in the computer lab to work through the activities. After the lab, students should read the discussion, and review the concepts and vocabulary terms that were introduced in the lab.

The lab exercises are designed so that the initial labs have significant "hand-holding," leading students step-by-step through activities, and with each subsequent lab the student is expected to fill in more details with their own insights and creativity. By slowly removing the "training wheels" we hope students get to a level of independent work without being expected to take off on their own from the beginning. There is a lot of material here, and a lot to learn, but the best advice to the student is to experiment - indulge your curiosity and nurture your creativity! Programming is an area where you can turn your ideas into something concrete, entertaining, and amazing. Impress us with who you are and what you can do!