CS 378: Declarative Programming
Spring 2017

Homepage: http://www.cs.utexas.edu/users/vl/teaching/378

Unique Number: 52245
Time and Place: TTh 3:30–5, GDC 1.304
Instructor: Vladimir Lifschitz (vl@cs.utexas.edu)
Office Hours: W 1:30–3 and by appointment, GDC 3.808
Teaching Assistant: Dhananjay Raju (draju@cs.utexas.edu)
TA’s Office Hours: MF 4–5 and by appointment, GDC 3.802C

Traditionally, the programmer solves a computational problem by designing an algorithm and encoding it in an implemented programming language. Research in artificial intelligence and computational logic has led to an alternative, “declarative” approach to programming, which does not involve encoding algorithms. A program in a declarative language only describes what is counted as a solution. Given such a description, a declarative programming system finds a solution by the process of automated reasoning.

In this class, you will learn how to use the declarative programming tool CLINGO, which has found applications in many areas of science and technology. You will study the syntax and semantics of the input language of CLINGO, write programs in this language, and read papers on applications of declarative programming.

Prerequisite: Upper-division standing.

Class attendance. Class attendance is mandatory. Please come to class on time. Laptops and cell phones should be put away for the entire lecture.

Readings. There is no textbook for this course. The CLINGO user guide, lecture notes, and relevant papers will be posted on the class homepage.

Software. The system CLINGO is installed on the departmental machines: /projects/tag/clingo-5.1.0-linux-x86_64/clingo. It can be also downloaded from the site https://potassco.org.

Quizzes. At the end of a lecture you will be usually asked to write a quiz. You will be allowed to use hard copies of all materials posted on the class homepage or handed out in class, and any notes that you made during the semester. Most quiz problems will be similar to the exercises included in the lecture notes; others will test your understanding of the CLINGO programs.
discussed in class. There will be no other tests and no final, and there will be no make-up quizzes. If you become ill and miss a quiz, tell the TA about it and get a medical note.

**Programming Assignments.** You will be given a series of programming assignments, and you will work on them in small teams. Your program and the output that it produced should be emailed to the instructor and to the TA, and cc’d to the members of your team. The message should include the number of your team and the list of participants.

**Grading.** Your grade will be determined by the quizzes (70%) and the programming assignments (30%). Plus and minus grades will be used for the final class grade. If we have made a mistake in grading your quiz or program then send the TA an e-mail message describing the problem within a week after the score is posted on Canvas.

**Special Accomodations.** Students with disabilities who require academic accommodations should contact Services for Students with Disabilities (471-6259) to request a letter describing authorized accomodations.