Reminder: The *Academic Honor Policy* (see Brightspace) is applicable to all work you do in CS 3270/5270.

VANDERBILT UNIVERSITY School of Engineering

CS 3270/5270 – Programming Languages – Fall 2017

Programming Assignment 4

Dates

Wednesday (11/15):	Notification to instructor of language choice and if working individually or as a group
Monday (11/27):	Selection of presenters
Friday (12/01):	**Due date**
Monday (12/04), Wednesday (12/06):	Presentations

Purpose

Gain experience in quickly learning a new programming language.

Assignment

Create a **Sudoku** solver in a language that is new to you.

At this point in the class, you have programmed a Sudoku solver in C++, Racket, Prolog, and you will see Ruby in the final homework assignment. You are now to write a Sudoku solver in a language that is new to you (one from the list of languages below). If possible, add code to your program that times your solver. The languages you may choose from are:

Ada	Clojure	Eiffel	Erlang
F#	Forth or PostScript	Fortran	Haskell
Julia	Kotlin	Lua	ML or SML
Modula	Oberon	OCaml	Rust
Scala	Scratch	Simula	Squeak

If you want, you may work on teams of two or three for this project.

Please send your instructor an email message by Wednesday (11/15) with information on which language you have chosen for this project, and who you will be working with if you are working on a team.

Project submission

Even if working on a team, all team members need to submit the project to Blackboard. Each team member should submit:

- All source code.
- A document (Word or plain text) that contains the following information (all team members should submit the same document):
  - Names of team members.
  - Instructions on how to access an appropriate compiler/interpreter for your solver. Please include a URL and any special installation instructions.
  - Instructions on how to use your solver. Please include, as appropriate, instructions on compiling, linking, and running your solver.
  - A description of the input file format and where the file needs to reside for the solver to work.
  - A screen shot or log file of your program solving a puzzle.
- A sample input file.
- Add block comments to the top of all source files and include an academic honesty statement.
- A document (each team member creates their own) discussing how much each team member contributed to the project. This is a private document stating your personal opinion and will not be shared with other team members. You should state a percentage of contribution by each team member (should total 100%) and you should provide additional commentary describing each team member's contribution to the overall effort. Optionally, you can provide information on any special circumstances you want me to be aware of.

Final presentations

Each team is expected to present a final report to the class. This presentation is limited to 7 minutes. The presentation should focus on just one interesting feature of the language that was used in the Sudoku solver, or one extra challenge that was faced in creating a solver in the given language. Viewing actual code is okay only if it enhances the discussion. The presentation may also include a quick demonstration of the solver (though that is not required). Note: the focus of the presentation should be on a language feature used in the solver, and not the entire language, the final solver or its source code. Presentation dates/times will be selected by a random drawing on Monday (11/27). Not all teams will have an opportunity to present due to time limitations.

Grading

This project will be worth 50 pts, half the points of the prior three projects. Each team member will receive the same grade unless a team member did not contribute much to the final project (in which case their grade may be reduced 10%). Quality of your final presentation will also affect your grade.

Academic honesty

As stated in class, there are many solutions to Sudoku in many different programming languages available on the Internet. Do not look at the code you may find there. Using code that you find on the Internet is unethical, and of course you would miss the learning opportunity that you get by developing this yourself. This instructor will report any violations to the university's Honor Council.