

# COMSC 440 Language Translation and Compiler Design

Spring 2020

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## Project 2: C-Minus Scanner

Due Date: Friday, **March 6th** before class

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Here are instructions for your C-Minus scanner project. Make sure you read the description of the C-Minus tokens (lexical conventions) on pages 491- 492 of the textbook. You are to create a scanner-only version of the C-Minus compiler by using the TINY compiler as your model. Remember that your code is due on Friday, **March 6th, 2020** before class. This is a group project. You may make a group of two or three.

**Step 1.** Download the compressed project2 related files from Bridges, uncompress them and save them in your local drive.

**Step 2.** Complete the *scan.c* program to recognize the C-Minus tokens by referring to the C-Minus language DFA and TINY compiler scanner design. Put comments to all the codes you add. Also, add the purpose of the program and your group information such as names, emails, course number, and date to the header comments for *scan.c* and *main.c*. Make sure also using binary search for the reserved word lookup.

**Step3.** Create a Makefile file (you may modify the one for Tiny scanner) to compile and link all the related files.

**Step 4.** Use the sample C-Minus program *gcd.cm* (p496 of textbook) to test your scanner. Refer to TINY scanner list output for correct format.

**Step 5.** Compress all *six* source code files (i.e. the files **globals.h**, **util.h**, **scan.h**, **main.c**, **util.c**, and **scan.c**) into a file named project2XXX, where XXX are your initials, together with the test file *gcd.cm* and the *Makefile* file. Upload your compressed file to the Bridges under Project2.

**Step 6.** A report is required to show the C-Minus DFA. Your team should also report problems that you met in the implementation and how you have them fixed. C-minus DFA and the report are due on March 6th.