Project CP 2 – CS 536: Programming Language Design
Instructor: Rose Bohrer (pronouns: she/her)
Time: T,Th | 4:00 PM – 5:20 PM
Classroom: Higgins Labs 114
Instructor Office: Fuller Labs 139

Overview

This course is an ungraded, project-based, team-based course. This means that you identify a team, design your own project together, and assign yourself a grade based on how well your project meets the course goals. In understanding the role of assignments, we should distinguish "structure" from "requirements." If you already know how you want to run your project or what you want to do, you should do so – be as radical as you like. You choose how to engage with this structure, but these homeworks provide you a structure so that you have lots of guidance as your starting point.

When I review your submissions, I **only** provide formative feedback, never a grade. You are the person who assigns your final grade, you are in control.

Goal

Submit the simplest possible prototype for the simplest possible version of your project, bugs and all

Logistics

Teams are at least 3 people. There is no upper limit on size. It is recommended to keep the same team all semester. Checkpoints are due at the times indicated on the Schedule section of the syllabus.

As a group, fill out the form on the following pages and submit it. Submit all files for your (work-in-progress) project and submit (the beginnings of) your project report. Submit one copy for your whole group. Many students save their copies of the individual forms, to help with end-of-term self-evaluations.

- Before the meeting:
    - Do the work you said you would do
    - Fill out the pre-meeting form
- At the meeting:
    - Follow the meeting form
    - Take notes
    - Review exercises
    - Review project progress
    - Help each other with both of those things
    - Make sure to submit a readme file that tells me whether your file compiles and runs. If it does, make sure to tell me how to run it.
    - Read the handout to see what is planned next checkpoint.
    - Decide what work each person will do over the next checkpoint.
    - Submit your work on Canvas (one person, on behalf of group)
        - Make sure you submit your project files
        - Make sure to submit the beginnings of a project report.

Before-Meeting Form

Fill this out to prepare for your meeting. **Write your answers to the exercises:**

1. **Write your answers to these lecture exercises.**
   For the 3rd example NFA, write: a string that has:

   [a] At least one accepting run: _____

   [b] At least one run, but not accepting runs: _____

   [c] No run at all:_____
   You are encouraged to use the "extended syntax" from the end of the lecture.
   Write regular expressions to
   [d] Recognize any single digit: RE1 = _____
   [e] Recognize a natural number (just write RE1 when you need "a digit"

   RE2 = _____
   [f] Recognize an integer (just write RE1 or RE2 when you need "a digit" or "a natural number"

   RE3 = _____
   [g]Write a polynomial that is recognized by this context free grammar:
   S -> S+S | S*S | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

   _____
   [h] Write a derivation of the polynomial from the CFG:

   _____
2. **Any questions about the exercises you want to discuss with teammates?:**

   _____
3. **At the last meeting, what project work did you assign yourself?:**

   _____

   _____
4. **What went well in your own work? If you feel off track, what can the team do to get on track?:**

   _____

   _____
5. **As a whole, is the team on track? If not, what can you do to get on track?**

   _____

_____

6. **If there's anything course staff could do to help my team, I will bring that up in the team meeting:**

   OK: _____

Student Structured Meeting Form

Meet with all your teammates, follow the meeting instructions, and fill out the form.

7. **Discuss the lecture exercises + answers with each other. Write notes from your discussion here. Any sources of confusion? Were they resolved? Any questions you'd like to ask?:**

   _____

   _____

8. **Fill out a combined copy of the previous page, which summarizes your lecture exercise answers and progress, as a team overall.**
   Take notes on the following discussion (type them up in this doc) and submit them too:

   _____

9. **Discuss what each team member planned to do, what they did well, and where they need help:**

   _____

   _____

10. **Now help them, and/or get help from course staff.**
11. **Spend time reviewing the state of your prototype. As needed, spend time merging each person's work together and/or debugging problems with it. Describe any successes and challenges:**

    _____

12. **I want to support you. A great way to do this is if you proactively ask me questions and share comments/concerns with me on each checkin, at least once per checkpoint, so I can give you answers in my feedback. Put questions/comments here.**

    _____

    _____

13. **What do you (each) plan to do on your project in the next week?**

    _____

    _____

    END OF FORM

Instructor Feedback Rubric

I will use this rubric for giving feedback:

- What questions and concerns can I answer for the students?
- Was the work detailed enough that I felt I could provide good feedback? If not, your main feedback will be to increase the level of detail
- I read the answers to the lecture exercises. What mastery was demonstrated? What areas should they review, if any?
- Did they help each other understand the lecture exercises?
- Are they working well together?
- Did they say what each individual team member will do in the next week?
- I will give feedback on core course skills:
    - Did you correctly use regular expressions and context-free grammars to define your language?
    - Did you submit a program that compiles and runs and works on >=1 tiny example?
    - If not, did you document your problems and show me your plan going forward?
    - I will highlight students' strengths and progress on the above points.
- This is the first checkpoint where I ask you to start working on your final report / writeup for the project. See the main project handout for details. If you're not sure where to start, start by copy-pasting things you've already written about your goals, features, and syntax. Polish them up so they serve as useful notes to your team, then start expanding your intro/motivation section (for example)