# CS106 W2020 – Final Project

Due: Thursday, April 9, 2020, 11:59 PM

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Total of 60 marks. 40 marks are for the project itself. 20 marks are for the write-up.

Starter code: None

As a Final Project, we would like to give you the opportunity to explore the many new ideas and tools you learned in CS 106 to create something of your own. This Final Project is very open-ended: you can basically choose any theme or concept you want, as long as it uses a sufficient number of CS 106 ideas.

Below you will find ten course-related topics. Your project must use five of them.

Note: Lecture/Module 1 was a recap of CS105. There was no new content that week and thus you cannot chose content from this week as one of your five.

1) Lecture/Module 2: Containers, i.e. {}), records, array idioms and array functions, strings.
2) Lecture/Module 3: Input and Output: Reading and writing text and images files, sprites.
3) Lecture/Module 4: Advanced Shapes: beginShape(), vertex(), endShape(), PVector and polar coordinates.
4) Lecture/Module 5: User Interfaces and the DOM. create, createElement, createSlider, createInput, and createRadio. Dot style (i.e. .style) and dot html (i.e. .html).
5) Lecture/Module 6: Geometric Context: push(), pop(), translate(), rotate(), scale(); hierarchical modelling.
   (Note: Lecture/Module 7 was mostly midterm review. There was no new content that week and thus you cannot chose content from this week as one of your five.
6) Lecture/Module 8: Randomness and Noise: random(), randomSeed(), noise().
7) Lecture/Module 9: Text Processing: Reading text, parsing text, finding patterns and regular expressions.
8) Lecture/Module 10: Tables: Processing information in Tables. loadTable, getRowCount, getColumnCount, getString, and getNum.
9) Lecture/Module 11: JSON: Processing information in JSON files, and getting data online.
10) A topic of your choice. This can be something that is not covered in CS106. If you are going to use this as one of your five topics then you may want to discuss it in advance with your instructor or the ISAs, who are at cs106@uwaterloo.ca

You can choose any combination of five topics that suit your project idea.

For each of the five topics you are using, you'll be marked for:

- Correctness. Whether you're able to make the feature work as intended. [4 marks each for a total of 20 marks]
- Effectiveness (whether the feature is making a useful, non-trivial contribution to your project). The effectiveness mark is a bit of a judgment call, but we will be generous. The goal is to make sure you do something interesting with your feature. For example, adding a single line reading

save(); to your sketch, saving a screenshot of your sketch window, would not be considered effective use of Input and Output. [ 4 marks each for a total of 20 marks]

The Write-Up

Because we don't know what you're going to give us, you'll need to describe it to us. In the same folder as your sketch, you must include a write-up describing your project. The write-up can be a plain text file or a PDF, and must include the following sections:

Description: What is your project? One paragraph is enough for this. Your description will also be graded as follows: [4 marks]

- Correctness: Your description needs to explain your project correctly.
- Effectiveness: Your description should make it easy for the course staff to understand.

Inspiration: What was your inspiration? [2 marks]

- What inspired you to create your specific project?

Instructions: Explain how to run your sketch, and how to use its features. The length of this section depends on how complex your sketch's user interface is. [4 marks]

- Correctness: It needs to explain how to run your sketch correctly.
- Effectiveness: It should make it easy for the course staff to understand how to use your sketch.

Topics: List which of the topics from the menu above you used in your sketch. For each one, give one or two sentences explaining how you used that feature. [2 marks each for a total of 10 marks]

- Correctness: It needs to explain the content of each topic correctly.
- Effectiveness: It should make it easy for the course staff to understand how you used that topic.

Call your write-up “readme.txt” or “readme.pdf”.

Submission

If necessary, review the Code Style Guide.

If necessary, review the How To Submit document for a reminder on how to submit to LEARN.

Include a comment at the top of all source files containing your name and student ID number.

Create a zip file called FinalProject.zip containing the entire FinalProject folder and all its subfolders. The FinalProject folder should contain a single sketch with a suitably chosen name. That sketch folder should contain your write-up (readme.txt or readme.pdf).

Upload FinalProject.zip to LEARN.