

# Final Project

CS161

## Introduction

In lieu of a final exam will complete a final project. While you may work collaboratively every student is expected to complete and submit their own, individual project. In this project you will demonstrate the Python skills you have learned while stretching those skills. You will be required to research and use at least two new Python modules that you haven't previously used in class.

## Examples

Some starting example ideas for projects include:

- Web scraping using BeautifulSoup, perhaps to get sports scores or e-sports team rankings
- Image manipulation using Pillow, for example, to generate thumbnails for a folder of image files or to create random images based on some input
- Natural language processing with spaCy
- Simple data science with NumPy, Matplotlib, and pandas; perhaps exploring some of the openly available data sets on sites list [kaggle.com](https://www.kaggle.com) or similar
- Write a simple game using pygame
- Write a program that displays a slide show of the images in a folder with user-selectable timing and transitions (fade, wipe, blinds, etc.)
- Write a program that will read a text file and produce a PDF using PyFPDF; the program should allow for the user to specify fonts, font size, color, etc. and images to be placed inline
- Write a program that pulls data from weather API and then builds a simple web page with the weather information including graphics for the forecast (openweathermap.org is a free site that will give you all you need for this project)

These are just some suggestions to get you thinking about what you want to do. Use them as a starting point or come up with something all your own.

## Proposal

You will need to submit a printed project proposal to your instructor no later than end-of-class on Monday, March 4 for approval. In your proposal specify what it is you want to do, what packages you will be using, and why you are interested in it. **Your instructor must approve your project; this will count for 20% of the project grade.**

## Documentation

All the usual documentation required for this project including module and function docstrings.

## Submission

Submit your project including all source files (and anything else required to run it) in the **Assignment 20** folder in Google Drive as demonstrated by your instructor no later than noon on Wednesday, March 20, 2019.