Project

CSE105Sp22

Part 1 due TBA; Part 2 due TBA; Part 3 due TBA

The project component of this class will be an opportunity for you to extend your work on assignments and explore applications of your choosing.

Why? TBA

How? During emergency remote instruction last academic year, we discovered that video assessement and some open-ended personalized projects help ensure fairness and can be less stressful for students than in-person midterm exams. Asynchronous project submission also gives flexibility and allows more physical distancing.

Your videos: We will delete all the videos we receive from you after assigning final grades for the course, and they will be stored in a university-controlled Google Drive directory only accessible to the course staff during the quarter. Please send an email to the instructor (minnes@eng.ucsd.edu) if you have concerns about the video / screencast components of this project or cannot complete projects in this style for some reason.

You may produce screencasts with any software you choose. One option is to record yourself with Zoom; a tutorial on how to use Zoom to record a screencast (courtesy of Prof. Joe Politz) is here:

`https://drive.google.com/open?id=1KROMAQuTCk4OzwrEFotlYSJJQdcG_GUU`.

The video that was produced from that recording session in Zoom is here:

`https://drive.google.com/open?id=1MxJN6CQcXqIbOekDYMxjh7mTt1TyRVMl`

What resources can you use?

This project must be completed individually, without any help from other people, including the course staff (other than logistics support if you get stuck with screencast).

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You can use any of this quarter's CSE 20 offering (notes, readings, class videos, homework feedback). These resources should be more than enough. If you are struggling to get started and want to look elsewhere online, you must acknowledge this by listing and citing any resources you consult (even if you do not explicitly quote them). Link directly to them and include the name of the author / video creator and the reason you consulted this reference. The work you submit for the project needs to be your own. Again, you shouldn't need to look anywhere other than this quarter's material and doing so may result in definitions or notations that conflict with our norms in this class so think carefully before you go down this path.

The project has three parts.

- Part 1 of Project: due TBA
- Part 2 of Project: due TBA
- Part 3 of Project: due TBA

Part 1: due TBA

Written component

Video component

Presenting your reasoning and demonstrating it via screenshare are important skills that also show us a lot of your learning. Getting practice with this style of presentation is a good thing for you to learn in general and a rich way for us to assess your skills.

Prepare a 3-5 minute screencast video that starts with your face and your student ID for a few seconds at the beginning, and introduce yourself audibly while on screen. You don't have to be on camera for the rest of the video, though it's fine if you are. We are looking for a brief confirmation that it's you creating the video and doing the work submitted for the project.

Then, explain your work in question 1 of the written component. Discuss at least one potential mistake that someone solving a similar question should avoid (this could be a mistake you made while thinking about this problem or something you anticipate a classmate might struggle with); explain why the mistake is wrong and how to fix it.

TBA

Gradescope online submission

Checklist (this is how we will grade Part 1 of the project)

- Question 1: TBA

Part 2: due TBA

Written component

1. In this part of the project, you will select one question from one of the review quizzes TBA to revisit. Include the problem statement, why you picked this question (e.g. what is interesting about it, what is hard about it, or why you wanted to take a second look at it), and your solution.
   - Question selection: you can pick any **one question** listed in the Review sections of the relevant notes documents, and you must address all of its parts.
   - For each part of your chosen question: prepare a complete solution (you can use the homework solutions we post for guidance about the style). Your submission will be evaluated not only on the correctness of your answers, but on your ability to present your ideas clearly and logically. You should explain how you arrived at your conclusions, using mathematically sound reasoning. Your goal should be to convince the reader that your results and methods are sound. Imagine you are preparing these solutions for someone else taking CSE 20 who missed that week and is "catching up".
2. In this part of the project, you'll TBA

Video component

Presenting your reasoning and demonstrating it via screenshare are important skills that also show us a lot of your learning. Getting practice with this style of presentation is a good thing for you to learn in general and a rich way for us to assess your skills.

Prepare a 3-5 minute screencast video explaining your work in question 1 of the written component. During your solution presentation, point out at least one potential mistake that someone solving a similar question should avoid (this could be a mistake you made while thinking about this problem or something you anticipate a classmate might struggle with); explain why the mistake is wrong and how to fix it.

You do not need to include complete details of every part of your solution. It is up to you to choose what is most important so that you can stick to the timing guidelines and still have time to include discussing potential mistakes.

Include your face and your student ID (we'd like a photo ID that includes your name and picture if possible) for a few seconds at the beginning, and introduce yourself audibly while on screen. You don't have to be on camera the whole time, though it's fine if you are. We are looking for a brief confirmation that it's you creating the video/doing the work attached to the video.

Then, explain your work in question 1 of the written component. Discuss at least one potential mistake that someone solving a similar question should avoid (this could be a mistake you made

while thinking about this problem or something you anticipate a classmate might struggle with); explain why the mistake is wrong and how to fix it.

TBA

Checklist (this is how we will grade Part 2 of the project)

- Question 1
  - Selected review quiz question is labelled clearly, including the day it belongs to and the statement of the question.
  - Solution is complete: it addresses each part of the review quiz question selected.
  - Solution is correct: it clearly and correctly justifies the correct answer for each part of the question. You are welcome to check your answers with the Gradescope autograder (we will be reopening the review quizzes for this purpose). We will evaluate your submissions for the quality of your justification.
- Question 2
  - A key lesson from each of the three references is stated clearly and is relevant to the message of the articles. Supporting explanations are included.
  - A specific example of an instance where using computers/ CS *caused* an error is described.
  - A specific example of an instance where using computers/ CS helped *avoid* an error is described.
  - Lesson(s) are drawn from the previous experiences.
  - Specific strategies for increasing confidence in computation are described and justified.
- Video
  - Video loads correctly and is between 3 and 5 minutes. It includes your face and your student ID, and you introduce yourself audibly while on screen.
  - Video presents your solution for Question 1.
  - A potential mistake is presented and discussed.

Part 3: due TBA

Written component

1. In this part of the project, you will TBA

Video component

Presenting your reasoning and demonstrating it via screenshare are important skills that also show us a lot of your learning. Getting practice with this style of presentation is a good thing for you to learn in general and a rich way for us to assess your skills.

Prepare a 3-5 minute screencast video explaining your work in question 1 parts (c) and (d) of the written component (i.e. the negation and proof). During your solution presentation, point out at least one potential mistake that someone solving a similar question should avoid (this could be a mistake you made while thinking about this problem or something you anticipate a classmate might struggle with); explain why the mistake is wrong and how to fix it.

You do not need to include complete details of every part of your solution to these parts. It is up to you to choose what is most important so that you can stick to the timing guidelines and still have time to include discussing potential mistakes.

Include your face and your student ID (we'd like a photo ID that includes your name and picture if possible) for a few seconds at the beginning, and introduce yourself audibly while on screen. You don't have to be on camera the whole time, though it's fine if you are. We are looking for a brief confirmation that it's you creating the video/doing the work attached to the video.

Then, explain your work in question 1 of the written component. Discuss at least one potential mistake that someone solving a similar question should avoid (this could be a mistake you made while thinking about this problem or something you anticipate a classmate might struggle with); explain why the mistake is wrong and how to fix it.

TBA

Checklist (this is how we will grade Part 3 of the project)

- Question 1 TBA
- Video
  - Video loads correctly and is between 3 and 5 minutes. It includes your face and your student ID, and you introduce yourself audibly while on screen.
  - Video presents your solution for Question 1 parts (c) and (d).

– A potential mistake is presented and discussed.