Your Presentation

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and the following four verbal components:

1. Introduction to what you will prove.
2. Explanation of the overall idea of the proof.
3. Explanation of key steps of the proof.
4. Discussion of part 2 of your assignment. *See details on your assignment!*

Presentation Notes

- The last slide of this assignment provides an example for how you will be adding the link to your presentation recording to your last slide.

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- The last slide of this assignment provides an example for how you will be adding the link to your presentation recording to your last slide.
  This is done after the recording and is not part of your presentation.

Check your Presentation before you submit it!

- Check your recording to make sure that there is nothing amiss.
- After adding your presentation link to the last slide, make sure to check that it correctly opens your recording and that your recording is playable.
- If you fail to provide a usable link to your presentation recording, you will receive no more than half the points for this assignment.

Presentation Bonus

- Students have the option to do an in-person presentation that will be scheduled by Dr. Kiehl during the recitation time on Wednesday April 24 **or** during the final exam slot on Wednesday May 1.
- Students who do an in-person presentation must submit their presentation slides and a "draft" recording of their presentation on Gradescope **and** email Dr. Kiehl requesting an in-person presentation slot by 11:59 pm Friday April 19.
- Students presenting in-person will earn a bonus of either up to 5 points added to their lowest presentation score or up to 10 homework points added to their homework total for the term.
- A penalty of 1 point will be deducted from Presentation 3 if you are given a presentation slot and you are a "no show".
- Priority for in-person presentations will be given to students who do not have an A in the course going into exam 3.

Your Assignment

1. Let (X, d) be a metric space and let $x \in X$ and $\gamma > 0$ be given. Define a set in X to be $D^*(x; \gamma) = \{y \in X : \frac{\gamma}{3} < d(y, x) < \gamma\}$. Using the lecture definitions of open and closed sets, prove $D^*(x; \gamma)$ is open in X.
2. Describe one restriction on the metric space (X, d) that will allow you to prove that $D^*(x; \gamma)$ is closed in the restricted metric space. *This should not be a formal proof, rather you should highlight how your chosen restriction allows you to prove that $D^*(x; \gamma)$ is both closed and open in the restricted metric space.*

URL of your presentation on your last slide

The link to the the Presentation Video Tips from Summer 2021 can be found here.

You may link to a copy of your recording stored in WebEx or in your Box account (RPI provided accounts). Do not put the recording in a non-RPI location for us to access.