Math 104C Homework #0

1. Getting to know Math 104C part: **Due on Apr 10 by 11:59 PM**
2. Mathematics part: No submission.

Video: How to submit homework on Gradescope or copy and paste (`https://youtu.be/quBWbQ5opT0`)

1 Getting to know 104C (8pts)

Write the following on a piece of paper and submit it on Gradescope. You submit **only** "Getting to know 104C part", but not Mathematics part.

Please, don't forget to assign pages.

1. Check the parts of the syllabus that are related to grades. If you did it, write "Grading scheme checked." (2pts)
   - Grades
   - Proficiency grading
   - Make-up policy
   - Main activities and course outcome
2. Check the parts of the syllabus that are related to Active Thursdays and how to be successful. If you did it, write "Active Thursday and how to be successful checked." (2pts)
   - Active Thursdays
   - How to be successful
3. Check the communication part of the syllabus. If you did it, write "Communication checked." (2pts)

   Communication
4. Register iClicker. If you did it, write "iClicker registered." (2pts)

   Instruction

2 Mathematics (No credit assigned)

This first HW0 is to familiarize ourselves with the structure of the class. So, you do not need to submit this part. But presenters can get up to 8 pts of extra points.

1. (Computation) Write a code that returns evaluation of polynomials.
   (a) The function should use a vectorized code. That is, avoid unnecessary `for` loop.
   (b) The function should use Horner's algorithm.
   (c) The function should be able to evaluate multiple polynomials of different degrees.
   - It accepts 1D or 2D array `a` (coefficients of polynomials) and a 1D array `x` (a collection of x values at which polynomials are evaluated).

- Coefficients are in increasing order (i.e., the first entry is the constant term).
- If the coefficient array is 2D, then each row corresponds to a polynomial.
- It evaluates the polynomials at the same set of grid points `x`. In this case, the return value must be an array of the polynomial evaluations of the same length as the number of rows of `a`.

(d) Conduct sanity checks.

2. (More on computation background) If you know some good chunk of knowledge that is good to know, please share it.

   - You should share what is not covered in this class: skim through the notes `na08fundamentals.ipynb` for what will be covered soon. For example, some information on CPU, GPU, RAM, Cashe, and other hardware or logical memory should be a good topic. **Email me or tell me to confirm a presentation**. Please, don't take it personally if I decided not to assign presentation.
   - You may not be an expert level, but what you share must be reliable. It is a good idea to double-check at least with Wikipedia.
   - You should give meaningful information to general audience. Summarizing take-aways in several sentences will be a good idea.

3. (Technological tips) If you have good tools/tips that are useful for computation, please share them.

   - It can be about Jupyter, Python, NumPy, Matplotlib tools that are useful. But it shouldn't overlap with computation basics notes. **Email me or tell me to confirm a presentation**. Please, don't take it personally if I decided not to assign presentation.
   - It can also be productivity tools that are relevant to college settings and that you believe are novel and helpful to many people. **Email me or tell me to confirm a presentation**. Please, don't take it personally if I decided not to assign presentation.
   - You should give useful information to general audience. Summarizing take-aways and what we can do will be a good idea.

End of homework