**The Nicolas Method** was created as a result of the pre-pod experience, where TAs pretended to be students in a pod with a TA leading the logistics of the day. After trying to work individually and as a lock-step group, they found this method to be the most natural and efficient method for structuring group work for the tutorial section of NMA. This method works well with the philosophy that understanding the material deeply is more important than completing the entirety of the day’s tutorials. Tutorials have the general structure of a series of exercise sections. An exercise section begins with text and tutorial lectures and ends with an exercise or demo. The Nicolas method is a way to progress through an exercise section, and should be repeated for each section.

**General format:**

1. Split into breakout rooms.
2. Start to work on an exercise section individually.
   1. The exercise section begins with watching the necessary videos, reading the text and ends with the programming exercise.
   2. It’s about “giving it a go”, not about finishing it or understanding it completely.
3. Give the students enough time to go through the material associated with this exercise section (which depending on video duration and amount of text may vary between 5 and 20 minutes).
   1. Direct everyone to turn off their camera while they work, and when they finish the exercise section they turn their camera back on to show that they are done attempting the exercise section. (Mics are off during this process)
   2. If enough time has elapsed (your judgement) and everyone has not finished the exercise section, move to step 4.
   3. Direct students to try and save their questions for step 4.
4. At this stage, someone shares their screen (rotate this role) and the students and the TA, if present, discuss:
   1. … the science…
      1. What aspect of the course is being covered by this exercise?
      2. What do we understand about it?
      3. Does anyone have something to contribute to this understanding?
   2. ...the actual code...
      1. Were there any misunderstandings?
      2. If someone wasn't able to do it, can we help them understand it?
      3. If no one was able to do it, can we work together?
   3. ...and the outputs too…
      1. How do we interpret the results?
      2. What are the results showing us about the subject?
      3. Do they help us understand the material better?
   4. This step may take more time for harder exercises or for more interesting discussions. This is perfectly fine.
5. After this process you move on to the next exercise section and repeat this process from step 2.

**A caveat to this method** is that issues may arise when someone who is struggling with the exercise chooses not to ask questions or ask that someone explain the answer. As a result, the group starts to work asynchronously and group discussion doesn't work as well. Also there's the guilt tax everyone pays when they realize that someone has fallen behind. It is critical that those with questions feel empowered to ask them; they are not slowing the discussion, they are adding to it.

**It’s an important part of the TA’s role to manage group time** so that exercises are discussed synchronously, even if some students advance at a faster pace. Even if they are moving forward with the exercises, they can always come back to the previous ones for group discussion. It is also important that the TA encourages everyone to speak up, ask questions and share their answers to the exercises, especially for students who haven’t yet understood how to solve an exercise. Discussing a wrong solution is an opportunity to explore the potential pitfalls one might fall into while doing an exercise, and can be a fruitful experience both for the student who receives feedback on their solution as well as for the rest of the group. It is of the utmost importance that this feedback is provided with respect and understanding from everybody!

This method has helped open lots of opportunities to really understand the material deeply because discussion of each exercise/plot is so rich and full of questions. It's a great challenge as a participant to try and explain things you think you understand, only to unveil your own heuristics and fundamental misunderstanding of something. One pre-podder says: *“My most enjoyable moments were ones where I gave trying explain something to someone a shot, and I learned a lot through that process.”*

Another pre-podder says: *“When we worked only individually we didn't get that experience. This way also kept those who worked ahead back to the group to explain to those who didn't understand/were falling behind - this created a great group dynamic where we were all helping each other.”*

Although every group is different and TAs should use their judgement to manage their students to the best of their abilities, we encourage them to try this method out, since after a couple of weeks of experimenting with different approaches, this emerged as the most natural way to work through the tutorials.