Rubric Criteria → Levels of Mastery ↓	Manipulating & Visualizing Data	Performing Calculations & Simulations	Thinking Statistically	Navigating Quantitative Problems
Good (Solid performance with occasional or small mistakes.)	• Can manipulate data into useful formats with minimal errors. • Can use the full functionality of built-in Python functions and some custom modifications to make figures. • Figures are interpretable and effectively show a quantitative feature or result.	• Can perform most calculations, including calculations of novel quantities, without errors. • Can perform most *in silico* experiments and implement several simulation algorithms without major errors. • Code can be understood and interpreted by most users.	• Can usually identify quantitative phenomena and generate well-supported hypotheses for their distributions. • Can pose most problems in terms of a hypothesis test. • Can consistently identify the quantitative limitations of estimates due to the nature of the data.	• Can develop a few problem-solving strategies for most problems. • Can articulate several differences between the efficacy, consistency, or efficiency of solutions. • Can usually determine an "optimal" plan.
Novice (Achieves a basic level of success, makes some errors, and struggles with more complex tasks.)	• Can usually manipulate data into useful formats with some errors. • Can use some of the functionality of built-in Python functions and minimal modifications to make figures. • Figures are interpretable, but do not consistently illustrate a quantitative feature or result.	• Can use built-in functions to make calculations, but may make errors when performing "custom" calculations. • Can perform simple simulations but may make errors with more complicated *in silico* experiments. • Code may be difficult for readers to understand or interpret.	• Can sometimes identify quantitative phenomena and can generate hypotheses for their distributions with few inappropriate assumptions. • Can sometimes pose a problem in terms of a hypothesis test. • Can identify some of the limitations of estimates due to the nature of the data.	• Can develop **a** problem-solving strategy for some problems. • Can only articulate superficial differences between the efficacy, consistency, or efficiency of solutions. • Can sometimes determine an "optimal" plan.
Weak (An attempt was made but significant errors prevent success.)	• Cannot consistently manipulate data into useful formats without errors. • Cannot consistently use built-in Python functions to make figures. Cannot make meaningful modifications to these methods. • Figures are sometimes interpretable. Figures do not illustrate a quantitative feature or result.	• Can use built-in functions to make calculations with errors, but cannot perform "custom" calculations. • Can perform simple simulations with some errors, but not more complicated *in silico* experiments. • Code is difficult for readers to understand or interpret.	• Can sometimes identify quantitative phenomena, but cannot generate hypotheses for their distributions without inappropriate assumptions. • Make significant errors when trying to pose a problem in terms of a hypothesis test. • Makes frequent errors when trying to identify the limitations of estimates due to the nature of the data.	• Can develop problem-solving strategies but with major flaws. • Makes frequent errors when trying to articulate differences between the efficacy, consistency, or efficiency of solutions. • Makes critical mistakes when trying to determine an "optimal" plan.
Poor (No attempt was made. Knowledge and skills are absent.)	• Cannot manipulate data into useful formats. • Cannot consistently use built-in Python functions to make figures. • Figures are not interpretable or meaningful.	• Cannot perform calculations at all or cannot do so without significant errors. • Cannot carry out *in silico* experiments or simulations. • Code is very difficult or impossible for readers to understand.	• Cannot quantitative phenomena or generate hypotheses for their distributions. • Cannot pose a problem in terms of a hypothesis test. • Cannot identify the limitations of estimates due to the nature of the data.	• Cannot develop a problem-solving strategy. • Cannot differentiate between the efficacy, consistency, or efficiency of solutions. • Cannot determine an "optimal" plan.