Stat 238 Spring 2025 **Lab 5 Rubric** **A. Strang**

EVALUATOR NAME: _____ **SID:** _____

GROUP #: _____

REPRESENTATIVE NAME: _____ **SID:** _____

GROUP #: _____

Evaluation Instructions: Please ask your the group representatives the questions below. The representatives must explain what their group did to answer those questions and demonstrate their efforts by showing you their lab notebook.

Note: the evaluation standard here is only partially based on accuracy. Rather, look for demonstrated, genuine effort to engage with the problem. If a group could not finish a section relevant to your question, ask them what they did to work on it, what sources they looked at, and what ideas they had. Please use these conversations as an opportunity to discuss the lab with your peers. After the representatives have shown you their work, please share briefly any constructive comments you have. In particular, please share any advice you might have, or conclusions you drew, based on your efforts on the lab.

You may take brief notes in the space beneath each question. Please spend most of the time speaking with your peers. *Do not fill out the bubble evaluation on the back of this page until you have returned to your group.*

Representative Instructions: As a representative, it is your responsibility to explain your group's efforts clearly. Evaluators should not give you credit for vague explanations based on benefit of the doubt.

Question 1: Evaluator: "Please explain your group's efforts to implement GP regression for Q 1.4 and 1.5. Explain what you observed when you varied the noise level σ_y and the length scale l."

Question 2: Evaluator: "Explain your group's work on Q 2.5 (Bayesian optimization on the Levy test function). Comment on how the behavior of the optimizer changed under *one* perturbation and try to explain your observations (e.g. comment on your experiments in either Q 2.6, 2.8, or 2.9.)"

Numerical Evaluation: *Do not complete until back at your home table.*

Question 1 [5 points]. GP regression. To your best judgment, select the option below that characterizes the efforts of the lab group you reviewed to complete Q 1.4 and 1.5:

- ◯ [5 points] Essentially complete, clearly explained, and almost entirely accurate. Extraordinary demonstrated effort may make up for errors.
- ◯ [4 points] Mostly complete, well explained, and mostly accurate. Demonstrated genuine effort towards completion.
- ◯ [2.5 points] Partially completed, some confusion in explanation, or contains serious conceptual errors without genuine effort to interrogate them. Cursory or shallow attempt.
- ◯ [0 points] Incomplete or no demonstration of sincere or cogent effort.

Question 2 [5 points]. Bayesian optimization. To your best judgment, select the option below that characterizes the efforts of the lab group you reviewed to complete Q 2.5 and one perturbation:

- ◯ [5 points] Essentially complete, clearly explained, and almost entirely accurate. Extraordinary demonstrated effort may make up for errors.
- ◯ [4 points] Mostly complete, well explained, and mostly accurate. Demonstrated genuine effort towards completion.
- ◯ [2.5 points] Partially completed, some confusion in explanation, or contains serious conceptual errors without genuine effort to interrogate them. Cursory or shallow attempt.
- ◯ [0 points] Incomplete or no demonstration of sincere or cogent effort.

Question 3 [3 points]. Overall completion and comprehension. To your best judgment, select the option below that characterizes the overall efforts of the lab group:

- ◯ [3 points] Demonstrated genuine effort and comprehension on the full lab.
- ◯ [2 points] Demonstrated genuine effort and comprehension on most of the lab. Some minor gaps.
- ◯ [1 points] Demonstrated genuine effort and comprehension on parts of the lab, but, some major gaps.
- ◯ [0 points] Seriously incomplete and no demonstration of sincere or cogent effort.
- ◯ [N/A] No basis for judgment beyond Q1 and Q2.

: