QBUS3830
Advanced Analytics

Semester 2, 2018

Homework Task 1

1 Instructions

Using the code scaffold and data provided:

1. Implement a Python class for a logistic regression. The class should compute the MLE numerically and be able to compute predictions for the class label and probabilities. Follow the instructions in the notebook.
2. Run the test code provided and check whether you get the same coefficients and standard errors as the `StatsModels` package.
3. Implement a Python class for a Robit regression.
4. Run the code to evaluate which method seems to be more accurate for prediction. Discuss the results.

2 Rules

No looking up for a similar answer on the internet. The point of the exercise is to understand the statistical and mathematical logic and practice translating it into code. You must follow the structure provided in the scaffold.

3 Rubric

You will get the full marks if you follow the instructions and obtain the correct numbers in parts 2 and 4.