

A systems analyst studied the effect of computer programming experience on ability to complete a task within a specified time. Twenty-five persons selected for the study, with varying amounts of computer experience (in months). All programmers were given the same task and the results of their success registered in the file `task.csv`. Results are coded as:  $Y = 1$  if task completed successfully;  $Y = 0$ , otherwise.

- a) Fit a simple logistic regression to predict the success of a programming task based on the experience of the programmer.
- b) Interpret estimated  $b_1$
- c) Find 90% CIs for  $\beta_0$  and  $\beta_1$
- d) Find 95% CIs for the odds ratio
- e) Predict probability of success of a programmer with 22 months experience
- f) Plot the fitted logistic curve along with the scatterplot of the response and the predictor
- g) Find the error rate on the entire data set
- h) Use the validation set approach with 70% of the data set to estimate the *test error rate*.