In this exercise, we use Gaussian process to model unknown functions f and v. According to the hint, we use Matern kernel both for f and v. Every time we maximize the acquisition function to choose a best potential point to evaluate. After evaluating the new point, add it to the “observed” data set and update our Gaussian process models for f and v, which completes one iteration. In order to take the constraint into account, we choose the acquisition function to be the multiplication of the unconstrained version of EI function and the probability of the constraint being satisfied. After all the iterations finish, we choose the maximizer from all the feasible (satisfy the constraint) data we’ve evaluated and believe it to be the global maximizer of function f.