Project #11 : Sequential Quadratic Programming

For this project, complete your individual or group code that implements a sequential quadratic programming solver. Your implementation should include the following details (see textbook algorithm 18.3 and course notes).

1. Solving a QP subproblem to determine the approximate iteration step.

2. Solve a relaxed QP subproblem if the initial subproblem is infeasible.

3. Use the method of penalty function line search to determine the actual step.

4. Employ a damped BFGS update for the quadratic term for the subproblem objective.

   Next, find and solve an appropriate problem of your choice is several variables. Compose a short report on any interesting details on your code, the problem you have chosen, and the solution.