Question 1: Why is it important to choose the step size α that is small enough?

Question 2: What does it mean for a condition to be of strong convexity?

Question 3: What is the purpose of the condition number of the problem?

Answer Question 1: It is important to have a small enough step size α because that would guarantee that the objective would decrease for every iteration.

Answer Question 2: A condition that has strong convexity means that the function has a parameter μ that is greater than zero in all cases.

Answer Question 3: The purpose of the condition number of the problem is to help determine the difficulty of solving a convex problem.