

ACM213 Set 3

Problem 1

- A) False: Penalty methods are no longer used in constrained gradient-based optimization because they have been replaced by more effective methods.
- B) True
- C) True
- D) False: A point is optimal if there is no feasible direction that is also a descent direction.
- E) True
- F) True
- G) False: Although it is true that the Lagrange multiplier or the slack variable must be zero, the conditions are not easy to solve.
- H) False: " must be positive definite
- I) True
- J) True
- K) False: interior-point methods can start with infeasible points.
- L) True

Problem 2: no submission

Problem 3: no submission