



UNIVERSITY
OF MANITOBA

DEPARTMENT OF ELECTRICAL AND COMPUTER
ENGINEERING

ECE 7670

OPTIMIZATION METHODS FOR COMPUTER-AIDED DESIGN

ASSIGNMENT 3

Due Date: March 12, 2009

Instructor: J. LoVetri

- 1) Test your programs written for Assignment 2 on the following two cases:
 - a) Choose several ten-variable quadratic functions in the form: $f(x) = \frac{1}{2}x^T A x + b^T x$ where the matrix A is symmetric and positive definite. Compare the methods to each other and to what you expect from theory.
 - b) Apply your programs to Rosenbrock's function: $f(x) = 100(x_2 - x_1^2)^2 + (1 - x_1)^2$.
Comment on the results and base your comments on theory where appropriate.
- 2) Do questions 12.8, 12.9, 12.16, and 12.24 in the textbook.