



THE UNIVERSITY OF TEXAS  
AT AUSTIN

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EE381V LARGE SCALE OPTIMIZATION

**Problem Set 2**

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# 1 Matlab and Computational Assignment

## 1.1 Five flavors for Eq. (9.20) in B & V

### 1.1.1 Standard Gradient Descent with Backtracking

### 1.1.2 Steepest Descent with $P_1$

### 1.1.3 Steepest Descent with $P_2$

### 1.1.4 Cyclic Coordinate Descent

### 1.1.5 Greedy Coordinate Descent

## 2 Written Problems

## A Codes Printout

### A.1 Standard Gradient Descent with Backtracking

## A.2 Steepest Descent

### A.3 Cyclic Coordinate Descent

## A.4 Greedy Coordinate Descent