

Homework 3, due Apr 4, 2013

March 20, 2014

Class materials can be found at <http://202.121.182.14:8080/faculty/leizhang>

Problem 1. Consider linear equation $Ax = b$, where

$$\begin{pmatrix} 1 & 0 & a \\ 0 & 1 & 0 \\ a & 0 & 1 \end{pmatrix}. \quad (1)$$

- (a) for what values of a , A is positive definite?
- (b) for what values of a , Jacobi iteration converges?
- (c) for what values of a , Gauss-Seidel iteration converges?

Problem 2. Find your project topic, and email the topic together with a short description directly to me (lzhang2012@sjtu.edu.cn) and TA (weimfflying@163.com) by next Tuesday, late reply will result in a deduction of your final grade by 1 point/day.