

# Homework 3

January 27, 2011

## 1 Question 1

Strassen's algorithm for matrix multiplication multiplies two  $N \times N$  matrices by performing seven recursive calls to multiply two  $N/2 \times N/2$  matrices. The additional overhead is quadratic. What is the running time of Strassen's algorithm.

## 2 Question 2

Describe a recursive algorithm for finding the maximum element in an array  $A$  of  $n$  elements. What is your running time and space storage?