INFSCI 2935 Introduction to Computer Security
Homework 2
Due Date: September 26 (by 5pm), 2003

1. Schematic protection model (20)

Let us modify the owner-based policy in examples in section 3.4.1 as follows:
• Instead of one subject type, now there are two different types of subjects, say \textit{user}_1 and \textit{user}_2
• An owner can only pass rights to another subject of the same type.

Formulate this owner-based policy using SPM.

2. Do the following problems from the book (6 × 10)

Chapter 4:
Problems: [5, 6, 10]

Chapter 5:
Problem: [2]

Chapter 6:
Problems: [5, 6]

3. Reading Assignment: (20 + 10 extra credit)

Based on the following papers and various models that we have covered in class, discuss the strengths and weaknesses of DAC, MAC, and RBAC approaches to security (atleast 2 pages).


James B. D. Joshi, Walid G. Aref, Arif Ghafoor and Eugene H. Spafford, 

Extra credit of 10 points will be awarded if your write-up contains
• ideas that are not expressed in the paper, or
• criticisms and corrections of ideas in the paper