# CS 348
# Introduction to Database Management
# Assignment 4

Due: 28 November 2012 9:00AM
Returned: 10 December 2012
Appeal deadline: By the end of final exam on the 19th
Lead TA: Taras Kinash

Plase submit the answers by placing hard copy solutions in the assignment boxes.

**Question 1.**

Given the following histories:

$$H_1 = \{W_2(x), W_1(x), R_3(x), R_1(x), W_2(y), R_3(y), R_3(z), R_2(x)\}$$
$$H_2 = \{R_3(z), R_3(y), W_2(y), R_2(z), W_1(x), R_3(x), W_2(x), R_1(x)\}$$
$$H_3 = \{R_3(z), W_2(x), W_2(y), R_1(x), R_3(x), R_2(z), R_3(y), W_1(x)\}$$
$$H_4 = \{R_2(z), W_2(x), W_2(y), W_1(x), R_1(x), R_3(x), R_3(z), R_3(y)\}$$

(a) Which of the above histories are conflict equivalent and why?

(b) Which of the above histories are serializable and why?

**Question 2.**

Question 16.7 in your book.

**Question 3.**

Question 19.5 in your book. Please give 2-3 sentence (not longer) justification of your answer.

**Question 4.**

Question 20.1 in your book, but only the first part.