Introduction into Mathematical Systems  
Math3390  
Fall 2009  
Assignment No.3 - 5 points  
Deadline: Monday September 21

1 Problem C Group

Derive the Inclusion-Exclusion Formula for five sets, i.e., derive formula for \( |A \cup B \cup C \cup D \cup E| \) which does not involve unions.

2 Problem A and B Group

Nine students entered a bar. An usher collected their ID cards. When the usher returned the cards students noticed that they all got somebody else’s ID card and not their own. What were the chances(probability) of this happening?