

## **Assignment 1**

### **Basic Math**

Due: September 25, 2019 at the beginning of class

For any doubts or queries regarding assignment please attend office hours which are to be announced shortly. The assignment can be written or typed. Please write your name and netID on the assignment.

1. Two cards are drawn from the pack of 52 cards. Find the probability that both are hearts or both are queens.
2. Draw an AND gate and NOT gate using only NOR gates.
3. You are given two strips of cloth made of an unknown material. The cloth burns randomly and unevenly. If each strip of cloth burns from start to end in 20 minutes each. Devise a system to measure 15 minutes of time elapsed. You can only light the ends of a strip of cloth.
4. Given 2 variables  $x$  and  $y$ , write a few lines of pseudo code that swaps their values without using a third variable or function.