

## Homework 12 : Due Friday, May 6

**Extra Problem:** The game of Spades consists of 2 teams with 2 players each. In one round, the 52 cards are dealt so that each player gets 13 cards. Let  $X$  be the random variable which gives the number of spades that you have. Let  $Y$  be the random variable which gives the number of spades that your partner has. Calculate  $P(X = 2, Y = 4)$  (this is one value of the joint distribution of  $X$  and  $Y$ ). Are  $X$  and  $Y$  independent random variables?