HW3 (EAS 595-Fall 2018)
Due: October 28th 2018, 9:00 AM

Problems from the book:

Section 4.1: Problem 2, 5, 7, 13

Section 4.2 & 4.3: Problem 18, 24

Section 4.4: Problem 30, 34

Extra problems:

1- Let X be a uniform random variable defined on (0 1): $X \sim$ Uniform (0,1)

1.1-What is the PDF of $Y = X^2$?

1.2-What is the correlation of X and Y ?

2- Let X and Y be independent random variables defined with the following PDF.

$f_X(x) = \begin{cases} (1+x)/2 & -1 \le x \le 1 \\ 0 & \text{other} \end{cases}$ and $f_Y(y) = \begin{cases} (1-y)/2 & -1 \le y \le 1 \\ 0 & \text{other} \end{cases}$ What is the PDF of Z=X+Y?