

# Homework

1. A). Plot the Pareto distribution the pdf and cdf with  $\alpha=1.1$  and  $k=81.5$ .  
B). It has been reported in the literature\* that when using heavy tailed workloads in the simulation with  $\alpha$  less than 1.7, the stability of the results is questionable. Explain why.
2. Show that log-normal distribution is not heavy-tailed.

\* M.E. Crovella, L.Lipsky "Long-lasting transient conditions in simulations with heavy-tailed workloads" In Proceedings of the 1997 Winter Simulation Conference, A.Andradottir, K.J. Healy, D.H.Withers, and B.L.Nelson, eds.