**Probability Distributions**

**Assignment 5.1 Statistics and Probability**

**(Solve using R)**

1. Hospital records show that of patients suffering from a certain disease, 75% die of it. What is the probability that of 6 randomly selected patients, 4 will recover?
2. A manufacturer of metal pistons finds that on the average, 12% of his pistons are rejected because they are either oversize or undersize. What is the probability that a batch of 10 pistons will contain (a) no more than 2 rejects? (b) at least 2 rejects?
3. A man was able to complete 3 files a day on an average. Find the probability that he can complete 5 files the next day.
4. The average number of homes sold by the Acme Realty Company is 2 homes per day. What is the probability that exactly 3 homes will be sold tomorrow?
5. The average speed of a car is 65 kmph with a standard deviation of 4. Find the probability that the speed is less than 60 kmph.
6. The average score of a statistics test for a class is 85 and standard deviation is 10. Find the probability of a random score falling between 75 and 95.
7. Suppose we know that the birth weight of babies is Normally distributed with mean 3500g and standard deviation 500g. What is the probability that a baby is born that weighs less than 3100g?