**Qn 1**

**In Hong Kong, criminal cases are tried usually with a 7-person jury. In a particular case, suppose that the jurors are independent and based on the evidence, each is inclined to give a verdict of “innocent” with a probability of 0.75 in a vote, what is the probability that the vote will be a majority verdict of “innocent”?**

**A majority verdict is 7 – 0, 6 – 1 or 5 – 2.**

It is a binomial distribution.

**Qn 2**

**The following web site tests your typing speed:** [**https://www.typingtest.com/test.html**](https://www.typingtest.com/test.html)

**Set up a probability model for the occurrence of mistyped words. What are your underlying assumptions?**

The probability model for the occurrence of mistyped words is a Poisson distribution. As in this model, the events occur randomly, the events are independent and the average probability of the event occurred is a constant in the given time. So, it is a Poisson distribution.

𝜆 is the mean number of the event in a given time. In this case, 𝜆 is the mean number of mistyped words occurred in 1 minute.

**Qn 3**

**Suppose the average number of accidents occurring weekly on a particular stretch of a highway equals 3. Calculate the probability that there is at least one accident this week.**

It is a Poisson distribution.