

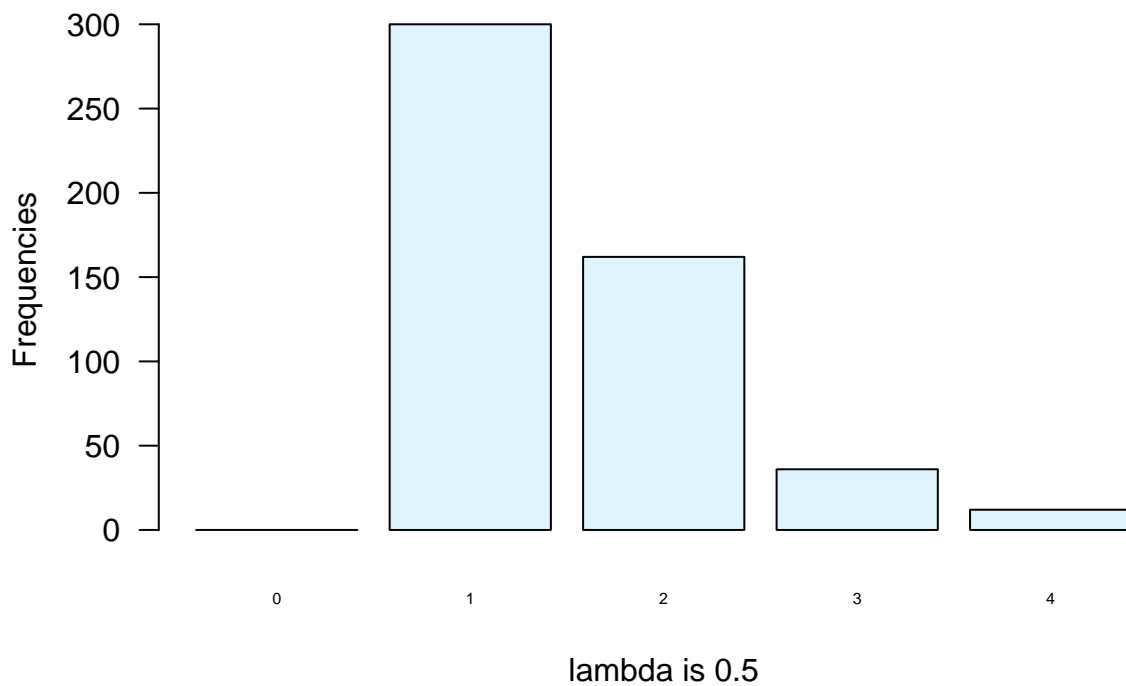
## poisson-dist-experiment

### What is the shape of distribution when lambda is small in poisson distribution

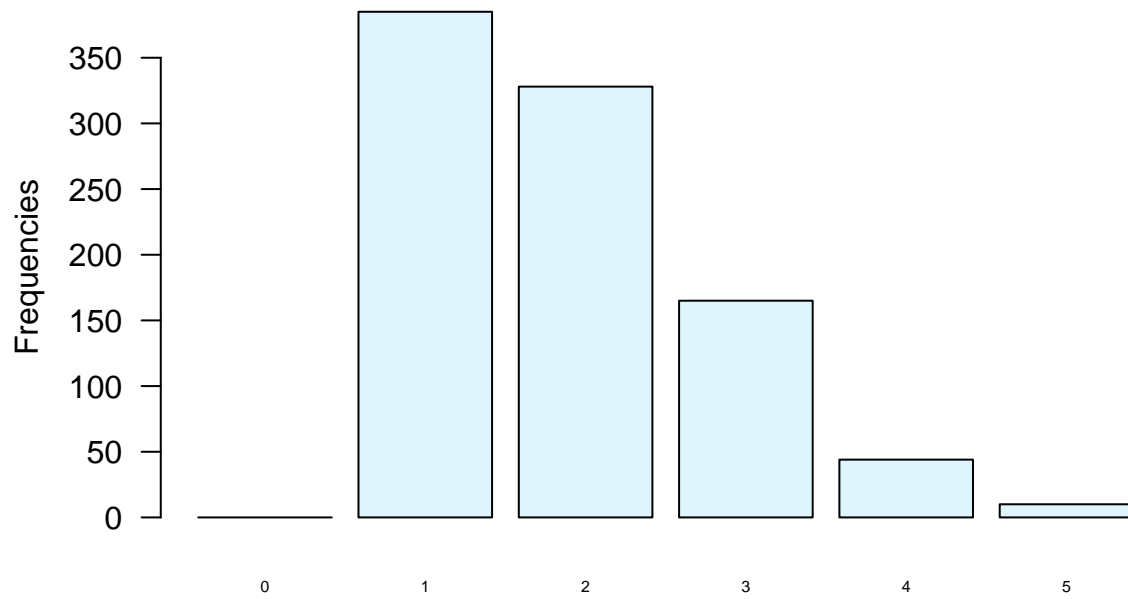
When lambda is small , we can find that the shape of poisson shift to left.

Let's experiment when lambda is 1, 2, and 4

```
pos.sample<- rpois(1000, 0.5)
pos.sample.df <-data.frame(pos.sample)
sampl.agg.df <- aggregate(pos.sample.df$pos.sample, by = list(rv = pos.sample.df$pos.sample) , FUN = sum)
barplot(sampl.agg.df$x~sampl.agg.df$rv, col=c("#ccf0fe9f"), horiz=FALSE, cex.names=0.5, las=1, width=1,
        xlab="lambda is 0.5", ylab="Frequencies")
```

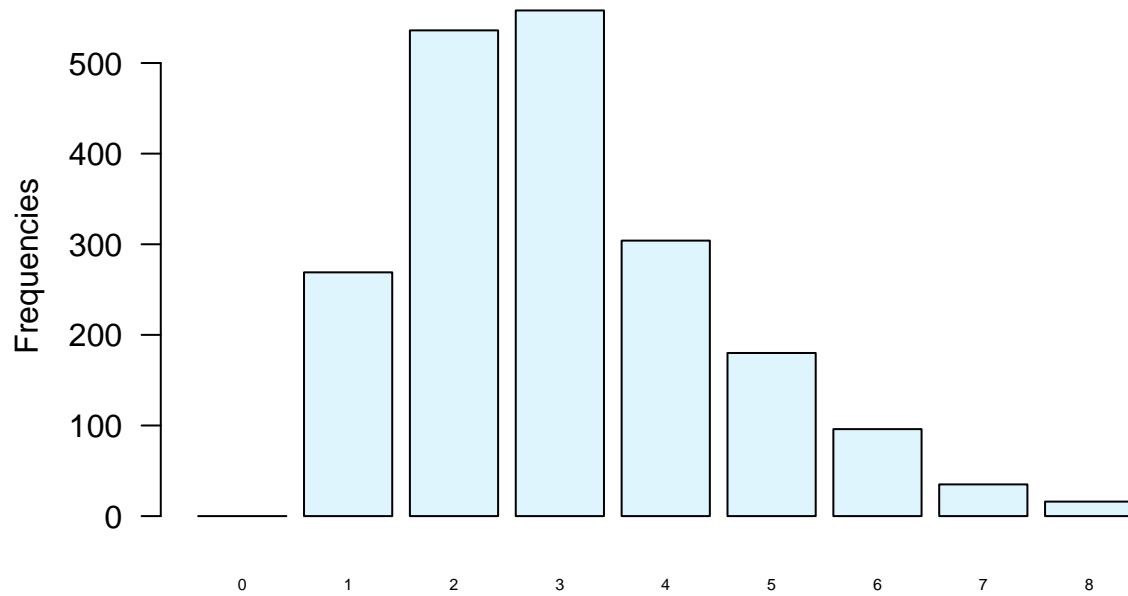


```
pos.sample<- rpois(1000, 1)
pos.sample.df <-data.frame(pos.sample)
sampl.agg.df <- aggregate(pos.sample.df$pos.sample, by = list(rv = pos.sample.df$pos.sample) , FUN = sum)
barplot(sampl.agg.df$x~sampl.agg.df$rv, col=c("#ccf0fe9f"), horiz=FALSE, cex.names=0.5, las=1, width=1,
        xlab="lambda is 1", ylab="Frequencies")
```



lambda is 1

```
pos.sample<- rpois(1000, 2)
pos.sample.df <-data.frame(pos.sample)
sampl.agg.df <- aggregate(pos.sample.df$pos.sample, by = list(rv = pos.sample.df$pos.sample) , FUN = sum)
barplot(sampl.agg.df$x~sampl.agg.df$rv, col=c("#ccf0fe9f"), horiz=FALSE, cex.names=0.5, las=1, width=1,
        xlab="lambda is 2", ylab="Frequencies")
```



lambda is 2

**What is the shape of distribution when lambda is big in poisson distribution**

We consider lambda is big, the distribution shape is bell curve, which is the same as normal distribution shape.

```
pos.sample<- rpois(1000, 50)
pos.sample.df <-data.frame(pos.sample)
saml.agg.df <- aggregate(pos.sample.df$pos.sample, by = list(rv = pos.sample.df$pos.sample) , FUN = sum)
barplot(saml.agg.df$x~saml.agg.df$rv, col=c("#ccf0fe9f"), horiz=FALSE, cex.names=0.5, las=1, width=1,
        xlab="lambda is 50", ylab="Frequencies")
```

