Class 12, Homework Assignment

Question 1 (2 points). Use the code provided below to create a matrix with 100 random values, 10 rows and 10 columns. Calculate the column means, row means, column sums, and row sums.

```r
mat <- matrix(rpois(n=100, lambda=5.5), nrow=10, ncol=10)
```

Question 2 (2 points). Calculate the ranges of the columns and the 25% and 75% quantiles of the rows of the matrix created in question 1.

Question 3 (2 points). Use the code provided below to generate several missing values in the matrix created in question 1. Calculate the variances of its columns and medians of its rows.

```r
mat[sample(x=1:length(mat), size=6, replace=FALSE)] <- NA
```

Question 4 (4 points). Use the code provided below to create a data frame. Consider that this data frame contains the records of the abundance of four bird species. Calculate the mean, standard deviation, minimum and maximum of bird abundance for each species. Create a table to show the results and save your results in your computer.

```r
a <- rpois(100, lambda=2.5)
s <- sample(c('woodpecker','chickadee','black bird','sparrow'), size=100, replace=T)
dat <- data.frame(abundance=a, species=s)
```