Lab 02

```
library(RSQLite)
library(DBI)
dbcon = dbConnect(SQLite(), dbname="C:/Users/John/Desktop/STAT 240/Data/lab02.sqlite")
```

Question 1a
The column names of the data table 'zip':

```
names(dbReadTable(dbcon, "zip"))
```

```
## [1] "zip_code"  "latitude"  "longitude" "city"      "state"     "county"
```

Question 1b
The last 5 records in the data table 'CA':

```
tail(dbReadTable(dbcon, "CA"), n=5)
```

```
##        ID Country Geographic_name                          Region     Province
## 1636 1636      CA             S9V                     Lloydminster Saskatchewan
## 1637 1637      CA             S9X                      Meadow Lake Saskatchewan
## 1638 1638      CA             Y0A Southeastern Yukon (Watson Lake)        Yukon
## 1639 1639      CA             Y0B      Central Yukon (Dawson City)        Yukon
## 1640 1640      CA             Y1A                       Whitehorse        Yukon
##      Prov_acr Latitude Longitude Region_Index
## 1636       SK  53.2835 -110.0016            4
## 1637       SK  54.1335 -108.4347            4
## 1638       YT  61.5793 -131.1481           NA
## 1639       YT  64.6450 -137.5360           NA
## 1640       YT  60.7161 -135.0537            4
```

Question 1c
The last 3 records of the data table 'POP2011':

```
tail(dbReadTable(dbcon, "POP2011"), n=3)
```

```
##      Geographic_name
## 1635             Y0A
## 1636             Y0B
## 1637             Y1A
##      Incompletely_enumerated_Indian_reserves_and_Indian_settlements__2011
## 1635                                                                   NA
## 1636                                                                   NA
## 1637                                                                   NA
##      Population__2011 Total_private_dwellings__2011
```

```
## 1635             1758                            1090
## 1636             6538                            4282
## 1637            25601                           10887
##      Private_dwellings_occupied_by_usual_residents__2011
## 1635                                                 782
## 1636                                                3028
## 1637                                               10307
```

Question 1d

```
nrow(dbReadTable(dbcon, "POP2006")) #check row numbers
```

```
## [1] 1624
```

There are 1624 records in the data table 'POP2006'

Question 2a

```
sql_qry = "SELECT city, state, zip_code FROM zip WHERE state = 'IL'"
nrow(dbGetQuery(dbcon, sql_qry))
```

```
## [1] 1596
```

1596 Records are returned by this query.

Question 3a

```
sql_qry = "SELECT * FROM zip INNER JOIN tickets ON zip.zip_code=tickets.zip_code
WHERE fine_level1_amount > 100"
d=dbGetQuery(dbcon, sql_qry)
sum(d$latitude,na.rm=TRUE)
```

```
## [1] 2709141
```

The sum of the latitudes is 2709141.

Question 4a

```
library(sp)
library(rworldmap)
```

```
## ### Welcome to rworldmap ###

## For a short introduction type :   vignette('rworldmap')
```

```
library(rworldxtra)
worldmap = getMap(resolution = "high")
NrthAm = worldmap[which(worldmap$REGION=="North America"),]
plot(NrthAm,  main="Canadian locations with population less than 16278", col="white", bg="lightblue",
     xlim=c(-140,-55), ylim=c(42,72), )

qrt = "SELECT Latitude, Longitude FROM CA INNER JOIN POP2006 ON CA.Geographic_name == POP2006.Geographi
WHERE POP2006.Population__2006 < 16278"
p=dbGetQuery(dbcon,qrt)
points(x=p$Longitude, y=p$Latitude, col="red", pch=16)
```