Easy - Creating SQLite Database and populating dummy data from csv files

The database is named university.db and contains two tables, namely "Students" and "Enrolled". Students has a list of students with their roll numbers and names. Enrolled has a row for every course a student is enrolled in.

```
library(RSQLite)
conn<-dbConnect(RSQLite::SQLite(), 'university.db')
students<- read.csv('Student.csv')
enrolled<- read.csv('Enrolled.csv')
dbWriteTable(conn, "Students", students, fileEncoding = "UTF-8")
dbWriteTable(conn, "Enrolled", enrolled, fileEncoding = "UTF-8")
dbListTables(conn)
```

```
## [1] "Enrolled" "Students"
```

A glimpse at the tables:

```
tail(students, 10)
```

```
##    roll_no               name
## 1        1          qhgvlwtqk
## 2        2          niuughyhf
## 3        3             yddxlq
## 4        4    bdfaagposdiqgmi
## 5        5       znvvrdvsmpbj
## 6        6              fcmpu
## 7        7               okcl
## 8        8        jiorfkvgyio
## 9        9             raasmv
## 10      10 shddxznwfizmnznugb
```

```
tail(enrolled, 5)
```

```
##    roll_no class_name
## 34       9     ECO785
## 35      10     ECO785
## 36       6     ESO203
## 37       7     ESO203
## 38       8     ESO203
```

Medium - Insert function to insert values into a table

This function works similarly to part 1. It generates partial queries and combines them together finally in the variable "result_query".

```
insert <- function(conn = NULL,
                           insert_table = NULL, # table name into which values are to be inserted
                           insert_vector = NULL, # column names(vectors) into which values
                                                 # should be inserted
                           insert_values = NULL # values(vector) which are to be inserted
){
  insert_query<- "INSERT INTO "
  value_query<- "VALUES "
  result_query<- ""
  insert_query<- paste(insert_query, insert_table[1], " ", sep = "")
  if(!is.null(insert_vector)){
    insert_query<- paste(insert_query, "(", sep = "")
```

```
    for(i in 1:length(insert_vector)){
      if(i!=length(insert_vector))
        insert_query<- paste(insert_query, insert_vector[i], ", ", sep = "")
      else
        insert_query<- paste(insert_query, insert_vector[i], ") ", sep = "")
    }
  }

  value_query<- paste(value_query, "(", sep = "")
  for(i in 1:length(insert_values)){
    if(i!=length(insert_values))
      value_query<- paste(value_query, "'", insert_values[i], "', ", sep = "")
    else
      value_query<- paste(value_query, "'", insert_values[i], "');", sep = "")
  }
  result_query<- paste(insert_query, value_query, sep = "\n")
  cat(paste("The resulting query created is:", result_query, sep = "\n"))
  dbExecute(conn, result_query)
}
```

Example for inserting a row

Defining the parameters -

```
insert_table<- c('Students')
insert_vector<-  c('roll_no', 'name')
insert_values<- c(12, 'abcd1234')
```

Executing the query -

```
insert(conn = conn,
               insert_table = insert_table,
               insert_vector = insert_vector,
               insert_values = insert_values)
```

```
## The resulting query created is:
## INSERT INTO Students (roll_no, name)
## VALUES ('12', 'abcd1234');
```

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

Results -

```
tail(dbGetQuery(conn, "select * from Students"), 10)
```

```
##    roll_no              name
## 2        2          niuughyhf
## 3        3             yddxlq
## 4        4    bdfaagposdiqgmi
## 5        5       znvvrdvsmpbj
## 6        6              fcmpu
## 7        7               okcl
## 8        8        jiorfkvgyio
## 9        9             raasmv
## 10      10 shddxznwfizmnznugb
## 11      12           abcd1234
```