MOVEMENTS DATA

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# MOVEMENTS

Load file.

movements <- read.csv("C:/Users/Brody/Documents/CKME136/AIR CANADA REPORTS/Aircraft Movement/movements.csv")

Rename columns.

names(movements)[1] <- "Date"  
names(movements)[5] <- "Type"  
names(movements)[6] <- "Peak"  
names(movements)[13] <- "Value"

Select only used columns.

movements <- movements[, c("Date", "Airports", "Type", "Peak", "Value")]

Change Date to string.

movements$Date <- as.character(movements$Date)

Select total movements from each city.

number\_of\_movements <- sqldf("SELECT \* FROM movements WHERE Type = 'Total, itinerant and local movements' AND Peak = 'Number of movements'")

Per year by city.

date\_1997 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '1997-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_1998 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '1998-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_1999 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '1999-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2000 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2000-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2001 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2001-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2002 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2002-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2003 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2003-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2004 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2004-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2005 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2005-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2006 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2006-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2007 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2007-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2008 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2008-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2009 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2009-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2010 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2010-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2011 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2011-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2012 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2012-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2013 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2013-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2014 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2014-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2015 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2015-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2016 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2016-\*' GROUP BY Airports ORDER BY Airports")  
  
date\_2017 <- sqldf("SELECT Date, Airports, SUM(VALUE) FROM number\_of\_movements WHERE Date GLOB '2017-\*' GROUP BY Airports ORDER BY Airports")

Combine years.

number\_of\_movements\_clean <- rbind.fill(date\_2001, date\_2002, date\_2003, date\_2004, date\_2005, date\_2006, date\_2007, date\_2008, date\_2009, date\_2010, date\_2011, date\_2012, date\_2013, date\_2014, date\_2015, date\_2016)

names(number\_of\_movements\_clean)[3] <- "Value"

Select by city.

toronto\_movements <- sqldf("SELECT Date, SUM(Value) as Movements FROM number\_of\_movements\_clean WHERE Airports GLOB 'Toronto\*' GROUP BY Date")  
  
vancouver\_movements <- sqldf("SELECT Date, SUM(Value) as Movements FROM number\_of\_movements\_clean WHERE Airports GLOB 'Vancouver\*' GROUP BY Date")  
  
montreal\_movements <- sqldf("SELECT Date, SUM(Value) as Movements FROM number\_of\_movements\_clean WHERE Airports GLOB 'Montr\*' GROUP BY Date")