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title: "Week5Lab_Question1"
author: "Frank Shen"
date: "2019/2/10"
output:
  pdf_document: default
  html_document: default
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```{r}
library(RSQLite)
library(DBI)
con = dbConnect(RSQLite::SQLite(), dbname="stat240Week5.sqlite")
exm="SELECT * FROM Olymp_meds"
omp = dbGetQuery(con, exm)
names(omp)


mov_avg1 = "SELECT Edition, Count(Edition) AS TotalNumber FROM Olymp_meds GROUP BY
Edition"
out = dbGetQuery(con, mov_avg1)
names(out)
##Question1 a)
plot(out, type="p", main= "The number of athletes obtained
medals per year", xlab= "Edition", ylab="Total Number", col="blue", lwd = "2")
##Question1 b)
mov_avg2 = "CREATE VIEW IF NOT EXISTS tot_meds AS SELECT Edition, Count(Edition) AS
TotalNumber FROM Olymp_meds GROUP BY Edition"
dbSendQuery(con, mov_avg2)
dbListTables(con)

##Question1 c)
mov_avg3 = "SELECT Edition, TotalNumber FROM tot_meds"
out = dbGetQuery(con, mov_avg3)

plot(out$Edition, out$TotalNumber, xlab = "Edition", ylab = "Numbers",main = "Total
number of athletes who obtained Olymics medals",type="p", col="red",lwd = 2, las=2)

lines(out$Edition, out$TotalNumber, col= 1 , lwd= 2 )


check = "SELECT * FROM tot_meds AS t, (SELECT t1.Edition, AVG(t2.TotalNumber) AS
mavg FROM tot_meds AS t1, tot_meds AS t2 WHERE t2.Edition BETWEEN (t1.Edition-4)
AND (t1.Edition+4) GROUP BY t1.Edition) sq  WHERE (t.Edition = sq.Edition)"
movingAvg = dbGetQuery(con, check)
##Question1 d)
names(out)
plot(out$Edition , out$TotalNumber, xlab="Edition",ylab="Numbers", main="Total
number of athletes who obtained Olympic medals", type="p",col="red",lwd=2,las=2)
lines(out[[1]], out[[2]], col=1,lwd=2)
lines(movingAvg$Edition, movingAvg$mavg,type="l",col=3,lwd=2)
legend("topleft",lwd=2,lty=c(NA,1,1),pch=c(1,NA,NA),col=c(2,1,3), c("medal per year
points","medals per year","moving average"))

dbSendQuery(con, "drop view tot_meds")
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