DoSS Toolkit - Example Code

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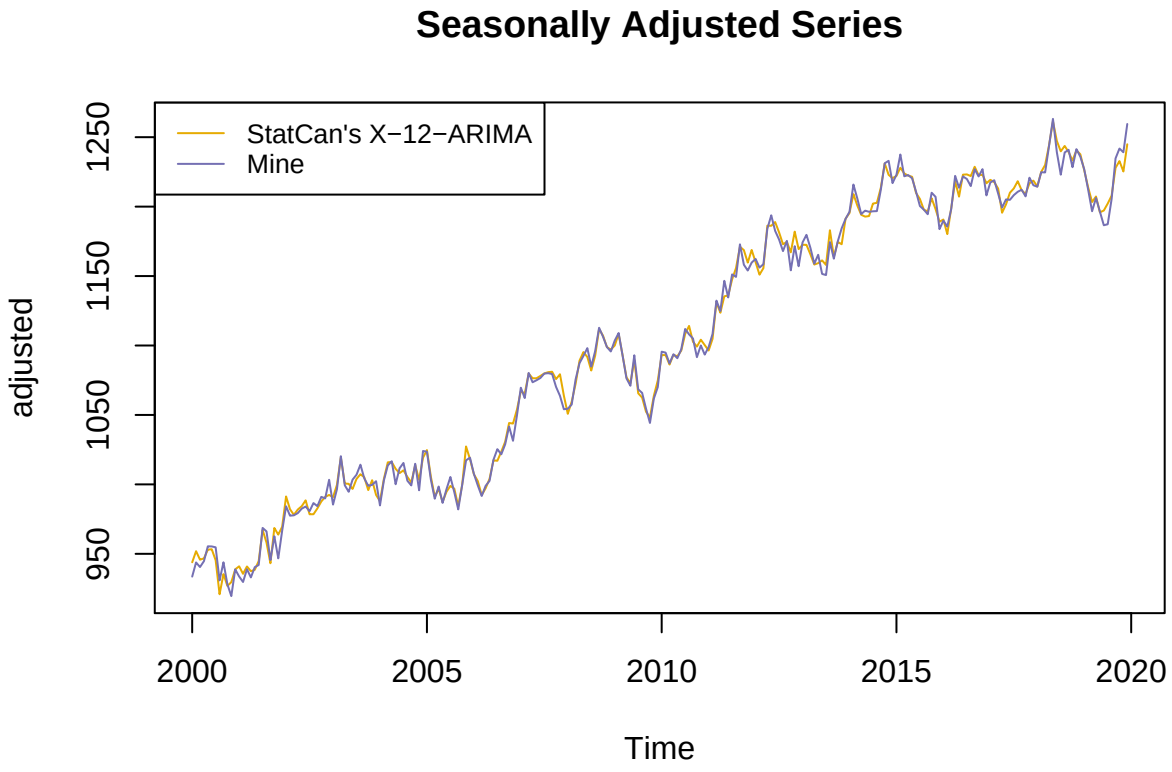
cansim Package

```
# download data
library(cansim)
library(tidyverse)
# student number: 1002358361
# industry: accommodation and food services
# unadjusted: v2057828
# seasonally adjusted: v2057619
# trend-cycle: v123355122
# time period: Jan 2000 to Dec 2019
ua = get_cansim_vector("v2057828", start_time="2000-01-01",
                       end_time="2019-12-01") %>%
  pull(VALUE) %>% ts(start=c(2000, 1), frequency=12)

ua_ma = stats::filter(ua, rep(1/12,12), side = 1 )

# detrended series
de_ua = ua / ua_ma
# convert to matrix
de_ua_mat = t(matrix(de_ua, nrow=12))
# take sample means for each month
seasonal = colMeans(de_ua_mat, na.rm=T)
# centre at 1
seasonal = ts(rep(seasonal/mean(seasonal), 20), start=c(2000,1), frequency = 12)

adj = get_cansim_vector("v2057619", start_time="2000-01-01",
                       end_time="2019-12-01") %>%
  pull(VALUE) %>% ts(start=c(2000, 1), frequency=12)
plot(adj, col="#e6ab02", main="Seasonally Adjusted Series",
     ylab="adjusted")
mine = ua/seasonal
lines(mine, col="#7570b3")
legend("topleft", legend=c("StatCan's X-12-ARIMA", "Mine"),
       col=c("#e6ab02", "#7570b3"), lty=1, cex=0.8)
```



tidyverse Package

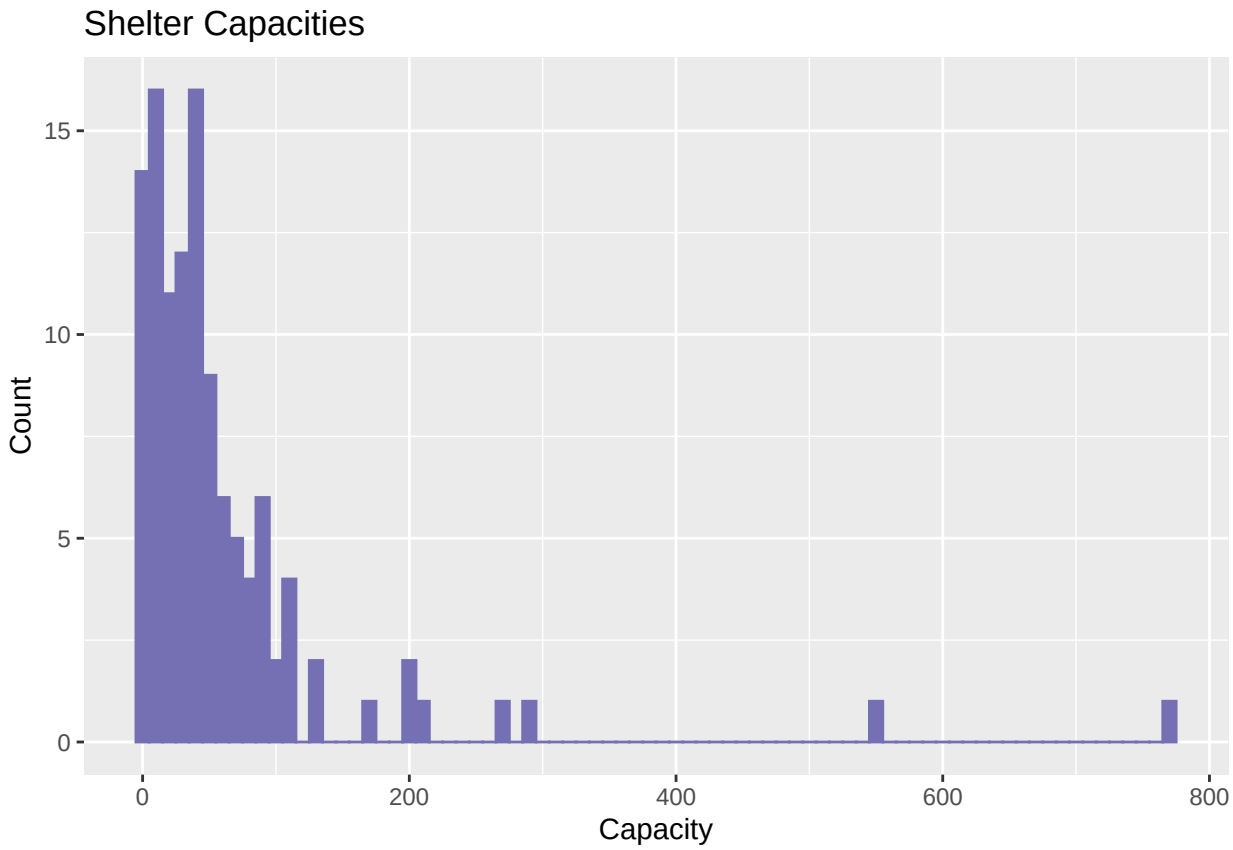
```
library(opendatatoronto)
library(visdat)
library(skimr)

shelter_occupancy_stats <- get_resource("5097e562-9ee0-41d2-bfd7-86878cf8fbcd")

march5_stats <- shelter_occupancy_stats %>%
  filter(OCCUPANCY_DATE == "2020-03-25T00:00:00")

capacity_distn <- march5_stats %>%
  ggplot(aes(x = CAPACITY)) +
  geom_histogram(binwidth = 10, color = "#7570b3", fill = "#7570b3") +
  ggtitle("Shelter Capacities") +
  xlab("Capacity") + ylab("Count")

capacity_distn
```


Shelter Capacities
Count
15
10
5
0
0
200
400
600
800
Capacity