mappeoppgave 1

```
knitr::opts_chunk$set(echo = TRUE)

library(tidyverse)
library(data.table)
library(cowplot)
library(readxl)

Global_temp <- fread("http://vortex.nsstc.uah.edu/data/msu/v6.0/tlt/uahncdc_lt_6.0.txt", sep = " ")

View(Global_temp)
Global_temp <- Global_temp[-c(518:526),]
str(Global_temp)
Global_temp <- as.data.frame(apply(Global_temp, 2, as.numeric))
str(Global_temp)
keeps <- c("Year", "Mo", "Globe")
Global_temp <- Global_temp[keeps]
Global_temp1 <- Global_temp %>%
  arrange(Year) %>%
  group_by(Year) %>%
  mutate(yearmean = rollmean(Globe, k = 12, fill = NA)) %>%
  ungroup()
Global_temp2 <- Global_temp1 %>% drop_na()
Global_temp2 <- Global_temp2 %>%
  rename(Filler = Globe,
         Globe=yearmean)
Global_temp2 %>%
  ggplot(aes(x = Year, y = Globe)) +
  geom_line() +
  labs(title = "Temperaturendring over tid i troposfæren",
       x = "År",
       y = "Årlig temperatur snitt")
Global_temp1 %>%
  ggplot(aes(x = Year, y = Globe)) +
  geom_line(color = "blue") + geom_point(color= "blue") +
  labs(title = "Temperaturendring hver måned",
       x = "År",
       y = "Temperatur i snitt")


#oppgave 2
Lower_Trop <- fread("https://www.nsstc.uah.edu/data/msu/v6.0/tlt/uahncdc_lt_6.0.txt", sep = " ")

Lower_Trop <- Lower_Trop[-c(518)]
```

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Lower_Trop <- as.data.frame(apply(Lower_Trop, 2, as.numeric))

Mid_Trop <- fread("https://www.nsstc.uah.edu/data/msu/v6.0/tmt/uahncdc_mt_6.0.txt", sep = " ")
Mid_Trop <- Mid_Trop[-c(518)]
Mid_Trop <- as.data.frame(apply(Lower_Trop, 2, as.numeric))

Trop <- fread("https://www.nsstc.uah.edu/data/msu/v6.0/ttp/uahncdc_tp_6.0.txt", sep = " ")

Trop <- Trop[-c(518)]
Trop <- as.data.frame(apply(Trop, 2, as.numeric))

Lower_Strat <- fread("https://www.nsstc.uah.edu/data/msu/v6.0/tls/uahncdc_ls_6.0.txt" , sep = " ")

Lower_Strat <- as.data.frame(apply(Lower_Strat, 2, as.numeric))

keep <- c("Year", "Mo", "NoPol")
Lower_Trop <- Lower_Trop[keep]
Mid_Trop <- Mid_Trop[keep]
Trop <- Trop[keep]
Lower_Strat <- Lower_Strat[keep]

p1 <- Lower_Trop %>%
  ggplot(aes(x = Year, y = NoPol)) +
  geom_line(col = "dark green") +
  geom_point(col = "dark green") +
  labs(title = "Nedre troposfære",
       x = "År",
       y = "Temperatur")
p2 <- Mid_Trop %>%
  ggplot(aes(x = Year, y = NoPol)) +
  geom_line(col = "blue") +
  geom_point(col = "blue") +
  labs(title = "Midt troposfære",
       x = "År",
       y = "Temperatur")
p3 <- Trop %>%
  ggplot(aes(x = Year, y = NoPol)) +
  geom_line(col = "red") +
  geom_point(col = "red") +
  labs(title = "Troposfære",
       x = "År",
       y = "Temperatur")
p4 <- Lower_Strat %>%
  ggplot(aes(x = Year, y = NoPol)) +
  geom_line(col = "yellow") +
  geom_point(col = "yellow") +
  labs(title = "Nedre stratosfære",
       x = "År",
       y = "Temperatur")
Snitt <- rbindlist(list(Lower_Trop, Mid_Trop, Trop, Lower_Strat))[,lapply(.SD,mean), list(Year, Mo)]

p5 <- Snitt %>%
  ggplot(aes(x = Year, y = NoPol)) +
  geom_line(col = "black") +
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  geom_point(col = "black") +
  labs(title = "Snitt temperatur",
       x = "År",
       y = "Temperatur")
plot_grid(p1, p2, p3, p4, p5, ncol = 2, labels = "AUTO")
```