hw-2

```
## -- Attaching packages ---------------------------------------------------------------------------
```

```
## v ggplot2 3.3.2     v purrr   0.3.4
## v tibble  3.0.3     v dplyr   1.0.2
## v tidyr   1.1.1     v stringr 1.4.0
## v readr   1.3.1     v forcats 0.5.0
```

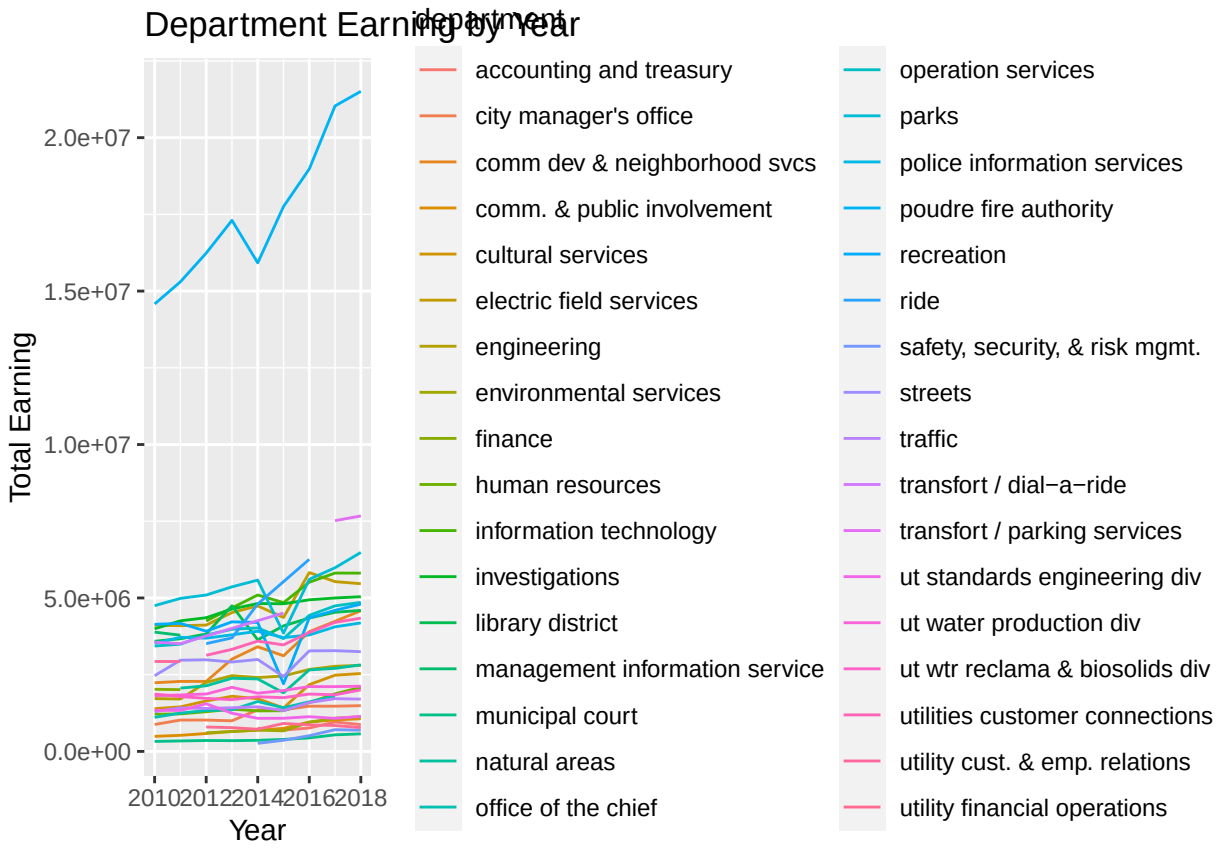
```
## -- Conflicts ------------------------------------------------------------------------------------
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
rdata <- function(year){

  r=paste("data/",year,"_Fort_Collins_City_Employee_Earnings.csv",sep="")
  data <- read.csv(r)
  dataf <- data %>% select("Job.Title","Department","Earnings")
  dataf <-dataf %>% rename(job_title = Job.Title,
                   department = Department,
                   earnings = Earnings)
  dataf <- dataf %>% mutate_at(c("job_title","department"),tolower)
  dataf <- dataf %>% mutate(year=year)
  return(dataf)
}


data2018 <- rdata(2018)
data2017 <- rdata(2017)
data2016 <- rdata(2016)
data2015 <- rdata(2015)
data2014 <- rdata(2014)
data2013 <- rdata(2013)
data2012 <- rdata(2012)
data2011 <- rdata(2011)
data2010 <- rdata(2010)

data <-rbind(data2010,data2011,data2012,data2013,data2014,data2015,data2016,data2017,data2018)
```

```
datau <- data %>% group_by(department) %>% mutate(unique=n_distinct(job_title)) %>% filter(unique>25) %
```

```
## `summarise()` regrouping output by 'year' (override with `.groups` argument)
```

```
ggplot(data = datau)+  geom_line(aes(year,tot_earning,color=department))+
  labs(title="Department Earning by Year",x= "Year", y="Total Earning")
```


Department Earning by Year
Total Earning
2.0e+07
1.5e+07
1.0e+07
5.0e+06
0.0e+00
2010
2012
2014
2016
2018
Year
department
accounting and treasury
city manager's office
comm dev & neighborhood svcs
comm. & public involvement
cultural services
electric field services
engineering
environmental services
finance
human resources
information technology
investigations
library district
management information service
municipal court
natural areas
office of the chief
operation services
parks
police information services
poudre fire authority
recreation
ride
safety, security, & risk mgmt.
streets
traffic
transfort / dial−a−ride
transfort / parking services
ut standards engineering div
ut water production div
ut wtr reclama & biosolids div
utilities customer connections
utility cust. & emp. relations
utility financial operations