## STAT 240 - Assignment 5

a.

```
# loading given translink.RData from assignment folder
translink = function(year, month, day, hour) {
  # creates list with two vectors- start & stop
  result = list("start"=vector(mode='character'), "stop"=vector(mode='character'))
  # creates data-time var with function paras (assuming all paras are int)
  date = ymd(paste(year, month, day, sep='-'))
  # hour [0, 24)
  if(hour<10) {
   date_time = paste(date, hour, sep=' 0')
  }
 else {
    date time = paste(date, hour, sep=' ')
  # loops through entire data
  for(i in 1:length(data)) {
    # picks element with/matching date-time
    if(date_time == substr(data[[i]]$created, 1, 13)) {
      # picks element with/containing bus route disruptions
      if(str_detect(data[[i]]$text, "#RiderAlert")) {
        # checks if disruptions have STOPED
        if(str_detect(data[[i]]$text, "CLEAR|(C|c)lear|ended|over|returned")) {
          # gets rid of date/time/street no. from string element
          vec str = str extract(data[[i]]$text, ".+detour")
          # extracts all bus no. t/ stopped having disruptions
          # takes consideration of time in the str for corner cases
          vec\_temp = str\_extract\_all(vec\_str, "(?<!\\:)[A-Z]?\d+\\b(?!\\:)")
          # loops to insert disruptions into vector 'stop'
          for(j in 1:length(vec_temp[[1]])) {
            result$stop[length(result$stop)+1] = vec_temp[[1]][j]
          }
        }
        # checks if disruption has STARTED
        else if(str_detect(data[[i]]$text, "detour|delays")) {
          # gets rid of date/time/street no. from string element
          vec_str = str_extract(data[[i]]$text, ".+detour")
          # extracts all bus no. t/ started having disruptions
          # takes consideration of time in the str for corner cases
          vec_temp = str_extract_all(vec_str, "(?<!\\:)[A-Z]?\d+\b(?!\\:)")
          # loops to insert disruptions into vector 'start'
          for(j in 1:length(vec_temp[[1]])) {
            result$start[length(result$start)+1] = vec_temp[[1]][j]
          }
```

```
}
}
return(result)
}
```