

STAT 240- Assignment 5

b.

My translink function is built to extract all Bus Routes of buses that “started” & “stopped” having disruptions within the provided day-hour in the function parameters. The function uses the translink data provided with the assignment instructions. The function does not excludes duplicates.

Case 1:

Simple case provided with the assignment instructions

- Contains 3 total instances with one bus route each

Translink function returns the expected result inside vector start and stop.

```
translink(2020, 1, 26, 3)
```

```
## [1] "Bus Disruptions Alert duing 2020-01-26 03H:"
## [1] "TransLink: #RiderAlert 23 Beach/Main Street Station detour UPDATE 7:25pm: clear, resuming regul.
## [1] "TransLink: #RiderAlert 406 Steveston/Brighthouse Station detour 6:30 PM. Regular route to No 3 Rd
## [1] "TransLink: #RiderAlert 401 One Road/Brighthouse Station detour 6:30 PM. Regular route to Westmins

## $start
## [1] "406" "401"
##
## $stop
## [1] "23"
```

Case 2:

Corner case 1;

- Contains 12 total instances of bus disruptions data within the given day-hour
- Among them,
 - 11 instances have one bus route each and
 - 1 instance has 3 distinct bus routes
- Therefore, 14 total bus routes

The function returns the expected result:

- Extracts all 3 bus routes from a single instance - “335”, “345”, “375”

- ```
translink(2020, 1, 28, 1)
```

### Case 3:

```
translink(2020, 1, 28, 4)
```

```
[1] "Bus Disruptions Alert duing 2020-01-28 04H:"
[1] "TransLink: #RiderAlert 228 Lonsdale Quay / 239 Park Royal detour 8:44PM. Regular route to 3 St &
[1] "TransLink: #RiderAlert 228 Lonsdale Quay / 239 Lonsdale Quay detour 8:44PM. Regular route to 3 S
[1] "TransLink: #RiderAlert 228 Lynn Valley / 239 Capilano U detour 8:44PM. Regular route to 3 St &ar
[1] "TransLink: #RiderAlert Detour clear 8:27PM. 407 Bridgeport detour 6:00PM. Regular route to Cook
[1] "TransLink: #RiderAlert Detour clear 8:27PM. 408 Ironwood/Riverport detour 6:00PM. ^kg"
[1] "TransLink: #RiderAlert Detour clear 8:27PM. Regular route to Cook & Cooney, Cooney, Westmin
[1] "TransLink: #RiderAlert 502 Langley Centre / 503 Aldergrove detours are cleared, service is back

$start
[1] "228" "239" "228" "239" "228" "239"
##
$stop
[1] "407" "408" NA "502" "503"
```

## Case 4:

Corner case 3;

- Contains 8 total instances of bus disruptions data within the given day-hour
- The instances contain spacing errors and bus route Names that are numeric,
  - Some instances have no space between bus route and preceding\succeeding character, such as “RiderAlert14” and “7Dunbar”
    - \* Error: Does not extracts bus route that does not ends with border character,so bus route- “7” won’t be extracted if “7Dunbar”
  - Some instances have numeric bus route Names, such as “(240) 15th Street”, “(16) 29 Ave”, and “(240) 15 St”
    - \* Error: Extracts 15 from from bus route Name (not bus route number) “15 St”
    - \* Error: Extracts 29 from from bus route Name (not bus route number) “29 Ave”

The function returns the expected result:

- Extracts bus routes “14” and “4” from instances where there is no space between bus route and preceding character
- Does not extracts bus route Name “15” from instance where bus route Name is “15St”
- Error: Does not extracts bus route “7” from instance where bus route is “7Dunbar” because does not ends with border character
- Errors: Extracts bus route Name “15” and “29” from instances where nus route Name is “15 St” and “29 AVE” because the numeric names ends in border character

```
translink(2020, 2, 12, 19)
```

```
[1] "Bus Disruptions Alert duing 2020-02-12 19H:"
[1] "TransLink: #RiderAlert14 Hastings/16 29 Ave Stn detour. Regular route to Granville and Davie, th
[1] "TransLink: #RiderAlert 20 Victoria detour. Regular route to Robson and Seymour, then Seymour, Ha
[1] "TransLink: #RiderAlert4 Powell/7Dunbar/50 Waterfront Stn detour. Regular route to Granville and
[1] "TransLink: #RiderAlert 240 15 St/246 Highland/257 Horseshoe Bay detour has ended. Resuming regul
[1] "TransLink: #RiderAlert 50 False Creek detour. Regular route to Cordova and Granville, then Cord
[1] "TransLink: #RiderAlert 14 UBC/16 Arbutus detour. Regular route to Hastings and Granville, then
[1] "TransLink: #RiderAlert 4 UBC/7 Dunbar detour. Regular route to Pender and Granville, then Pender
[1] "TransLink: #RiderAlert 240 15th Street/246 Highland/257 Horseshoe Bay Express detour. Regular r
```

```
$start
[1] "14" "16" "29" "20" "4" "50" "50" "14" "16" "4" "7" "240"
[13] "246" "257"
##
$stop
[1] "240" "15" "246" "257"
```