Part Two

PUT YOUR GROUP NAMES HERE

2/14/2022

Contents

```
##                     version V200001 V160001_orig V200002 V200003 V200004
## 1 ANES2020TimeSeries_20220210  200015        401318       3       2       3
## 2 ANES2020TimeSeries_20220210  200022        300261       3       2       3
## 3 ANES2020TimeSeries_20220210  200039        400181       3       2       3
## 4 ANES2020TimeSeries_20220210  200046        300171       3       2       3
## 5 ANES2020TimeSeries_20220210  200053        405145       3       2       3
## 6 ANES2020TimeSeries_20220210  200060        400374       3       2       3
##   V200005 V200006 V200007 V200008 V200009  V200010a  V200010b V200010c V200010d
## 1       0      -2      -2      -2       0 0.9628091 1.0057375        2        9
## 2       0       4      -1       3       0 1.0690851 1.1634731        2       26
## 3       0      -2      -2      -2       0 0.6834209 0.7686811        1       41
## 4       0      -2      -2      -2       0 0.5009530 0.5210195        2       29
## 5       1      -2      -2      -2       0 1.2622940 0.9657892        1       23
## 6       0      -2      -2      -2       0 0.2690297 0.2347078        2       37
##    V200011a  V200011b V200011c V200011d V200012a V200012b V200012c V200012d
## 1 0.6890542 0.8808871        2        9       NA       NA       NA       NA
## 2 1.0892632 1.0718362        2       26       NA       NA       NA       NA
## 3 0.6887992 0.6090307        1       41       NA       NA       NA       NA
## 4 0.7318153 0.7415758        2       29       NA       NA       NA       NA
## 5 1.0139897 0.9429687        1       23       NA       NA       NA       NA
## 6 0.3989081 0.3764974        2       37       NA       NA       NA       NA
##   V200013a V200013b V200013c V200013d V200014a V200014b V200014c V200014d
## 1       NA       NA       NA       NA       NA       NA       NA       NA
## 2       NA       NA       NA       NA       NA       NA       NA       NA
## 3       NA       NA       NA       NA       NA       NA       NA       NA
## 4       NA       NA       NA       NA       NA       NA       NA       NA
## 5       NA       NA       NA       NA       NA       NA       NA       NA
## 6       NA       NA       NA       NA       NA       NA       NA       NA
##   V200015a V200015b V200015c V200015d  V200016a  V200016b V200016c V200016d
## 1       NA       NA       NA       NA 0.9967454 0.9738741        2        9
## 2       NA       NA       NA       NA 1.0588577 1.1492022        2       26
## 3       NA       NA       NA       NA 0.6811416 0.7562310        1       41
## 4       NA       NA       NA       NA 0.4743654 0.4946339        2       29
## 5       NA       NA       NA       NA 1.2688093 0.9347994        1       23
## 6       NA       NA       NA       NA 0.2580123 0.2243177        2       37
##   V201001 V201002a V201002b V201003 V201004 V201005 V201006 V201007a V201007b
## 1       1       -1       -1      -1      -1       2       2        1        1
## 2       1       -1       -1      -1      -1       4       3        1        1
## 3       1       -1       -1      -1      -1       1       2        2        1
## 4       1       -1       -1      -1      -1       2       3        2        1
## 5       1       -1       -1      -1      -1       2       2        2        1
## 6       1       -1       -1      -1      -1       1       1        1        1
##   V201007c V201008 V201009 V201010 V201011 V201012 V201013a V201013b V201014a
## 1        1       1      -1      -1      -1      -1       -1       -1        1
## 2        1       1      -1      -1      -1      -1       -1       -1        1
## 3        1       1      -1      -1      -1      -1       -1       -1        1
## 4        1       1      -1      -1      -1      -1       -1       -1        1
## 5        1       1      -1      -1      -1      -1       -1       -1        1
## 6        1       1      -1      -1      -1      -1       -1       -1        1
##   V201014b V201014c V201014d V201014e V201015 V201015z V201016 V201017 V201018
## 1       40        1        0        1      -1       -3       3      -3       2
## 2       16        1        0        1      -1       -3       3      -3       4
## 3       51        1        0        0      -1       -3       3      -3      -1
## 4        6        0        0        1      -1       -3       3      -3       2
```

```
## 5        8        1        0        1       -1       -3        2       -3        4
## 6       48        1        0        0       -1       -3        2       -3       -1
##    V201018z V201019 V201020 V201021 V201022 V201023 V201024 V201025x V201026
## 1        -3      -1       1       8       2      -1      -1        3      -1
## 2        -3      -1       1      10       2      -1      -1        3      -1
## 3        -3      -1       1       6       2      -1      -1        3      -1
## 4        -3      -1       2      -1       2      -1      -1        3      -1
## 5        -3      -1       1       8       2      -1      -1        3      -1
## 6        -3      -1       2      -1       2      -1      -1        3      -1
##    V201028 V201029 V201029z V201030 V201031 V201031y V201032 V201033 V201033z
## 1       -1      -1       -2      -1      -2       -1       1       2       -2
## 2       -1      -1       -2      -1      -2       -1       1       3       -2
## 3       -1      -1       -2      -1      -2       -1       1       1       -2
## 4       -1      -1       -2      -1      -2       -1       1       1       -2
## 5       -1      -1       -2      -1      -2       -1       1       2       -2
## 6       -1      -1       -2      -1      -2       -1       1       1       -2
##    V201034 V201035 V201036 V201036z V201037 V201038 V201039 V201039z V201040
## 1        1      -1      -1       -2      -1      -1      -1       -2      -2
## 2        1      -1      -1       -2      -1      -1      -1       -2      -2
## 3        1      -1      -1       -2      -1      -1      -1       -2      -2
## 4        1      -1      -1       -2      -1      -1      -1       -2      -2
## 5        1      -1      -1       -2      -1      -1      -1       -2      -2
## 6        1      -1      -1       -2      -1      -1      -1       -2      -2
##    V201040y V201041 V201042 V201042z V201043 V201043y V201044 V201045 V201045z
## 1        -1       1       2       -2      -2       -1      -1      -1       -2
## 2        -1       1       2       -2      -2       -1      -1      -1       -2
## 3        -1       1       1       -2      -2       -1      -1      -1       -2
## 4        -1       1       2       -2      -2       -1      -1      -1       -2
## 5        -1       1       2       -2      -2       -1      -1      -1       -2
## 6        -1       1       6       -2      -2       -1      -1      -1       -2
##    V201046 V201046y V201047x V201048 V201049 V201049z V201050 V201050y V201051
## 1       -2       -1       11      -1      -1       -2      -2       -1       1
## 2       -2       -1       11      -1      -1       -2      -2       -1       1
## 3       -2       -1       11      -1      -1       -2      -2       -1       1
## 4       -2       -1        1      -1      -1       -2      -2       -1      -1
## 5       -2       -1       11      -1      -1       -2      -2       -1       1
## 6       -2       -1       11      -1      -1       -2      -2       -1       1
##    V201052 V201052z V201053 V201053y V201054 V201055 V201055z V201056 V201056y
## 1        2       -2      -2       -1      -1      -1       -2      -2       -1
## 2        2       -2      -2       -1      -1      -1       -2      -2       -1
## 3        1       -2      -2       -1      -1      -1       -2      -2       -1
## 4       -1       -2      -2       -1      -1      -1       -2      -2       -1
## 5        2       -2      -2       -1      -1      -1       -2      -2       -1
## 6        1       -2      -2       -1      -1      -1       -2      -2       -1
##    V201057 V201058 V201058z V201059 V201059y V201060 V201061 V201061z V201062
## 1       -1      -1       -2      -2       -1      -1      -1       -2      -2
## 2       -1      -1       -2      -2       -1      -1      -1       -2      -2
## 3       -1      -1       -2      -2       -1      -1      -1       -2      -2
## 4       -1      -1       -2      -2       -1      -1      -1       -2      -2
## 5       -1      -1       -2      -2       -1      -1      -1       -2      -2
## 6       -1      -1       -2      -2       -1      -1      -1       -2      -2
##    V201062y V201063 V201064 V201064z V201065 V201065y V201066 V201067 V201067z
## 1        -1      -1      -1       -2      -2       -1      -1      -1       -2
## 2        -1      -1      -1       -2      -2       -1      -1      -1       -2
```

```
## 3       -1      -1      -1      -2      -2      -1      -1      -1      -2
## 4       -1      -1      -1      -2      -2      -1      -1      -1      -2
## 5       -1      -1      -1      -2      -2      -1      -1      -1      -2
## 6       -1      -1      -1      -2      -2      -1      -1      -1      -2
##   V201068 V201069 V201070 V201070z V201071 V201071y V201072 V201073 V201073z
## 1      -2      -1      -1      -2      -2      -1      -1      -1      -2
## 2      -2      -1      -1      -2      -2      -1      -1      -1      -2
## 3      -2      -1      -1      -2      -2      -1      -1      -1      -2
## 4      -2      -1      -1      -2      -2      -1      -1      -1      -2
## 5      -2      -1      -1      -2      -2      -1      -1      -1      -2
## 6      -2      -1      -1      -2      -2      -1      -1      -1      -2
##   V201074 V201074y V201075x V201076x V201077x V201078x V201100 V201101 V201102
## 1      -2      -1      21      21      21      -1       1      -1       1
## 2      -2      -1      22      21      21      -1       2      -1       1
## 3      -2      -1      20      20      20      -1       1      -1       1
## 4      -2      -1      20      21      -1      -1       2      -1       1
## 5      -2      -1      21      21      21      -1       1      -1       1
## 6      -2      -1      20      20      20      -1       1      -1       2
##   V201103 V201103z V201104 V201105 V201105z V201106 V201107 V201108 V201109
## 1       2      -2       1       2      -2       2      -2       1      -2
## 2       5      -2       1       5      -2       2      -2       1      -2
## 3       1      -2       1       1      -2       1      -2       2      -2
## 4       1      -2       1       1      -2       1      -2       2      -2
## 5       2      -2       1       1      -2       2      -2       1      -2
## 6      -1      -2       1       2      -2       1      -2       2      -2
##   V201110 V201111 V201112 V201113 V201114 V201115 V201116 V201117 V201118
## 1       1      -2       2      -2       1       3       5       5       5
## 2       2      -2       2      -2       2       1       3       3       3
## 3       2      -2       1      -2       2       1       5       5       5
## 4       2      -2       1      -2       2       2       4       4       2
## 5       1      -2       1      -2       2       4       4       3       3
## 6       2      -2       1      -2       2       1       5       5       5
##   V201119 V201120 V201121 V201122 V201123 V201124 V201125 V201126x V201127
## 1       1       5       1       5       1       2       1       4       1
## 2       1       3       1       3       3       2       1       4       2
## 3       1       5       1       5       5       2       1       4       2
## 4       2       4       2       4       4       1       2       2       2
## 5       3       4       4       3       3       2       1       4       1
## 6       1       5       1       5       5       1       1       1       2
##   V201128 V201129x V201130 V201131 V201132x V201133 V201134 V201135x V201136
## 1       1       1       1       1       1       1       1       1       1
## 2       1       4       1       2       2       2       2       3       1
## 3       1       4       2       1       4       2       1       4       2
## 4       1       4       2       1       4       2       1       4       2
## 5       1       1       1       1       1       1       1       1       2
## 6       1       4       2       1       4       2       1       4       2
##   V201137 V201138x V201139 V201140 V201141x V201142 V201143 V201144x V201145
## 1       1       1       1       1       1       1       1       1       1
## 2       2       2       2       2       3       2       2       3       2
## 3       1       4       2       1       4       2       1       4       1
## 4       1       4       2       1       4       2       1       4       1
## 5       2       3       1       1       1       2       2       3       2
## 6       1       4       2       1       4       2       1       4       2
##   V201146 V201147x V201148 V201149 V201150x V201151 V201152 V201153 V201154
```

```
## 1         1         1         1         1         1         0       100         0        85
## 2         2         3         2         1         4         0         0         0         0
## 3         1         1         1         2         2        65         0        65         0
## 4         1         1         1         1         1        70        15        85        15
## 5         1         4         2         1         4        15        85        15        90
## 6         1         4         1         2         2        85         0        85         0
##   V201155 V201156 V201157 V201158 V201159 V201160 V201161 V201162 V201163
## 1       0       0      85       2      -2       1      -2       1      -2
## 2      50       0      50       2      -2       1      -2       1      -2
## 3      90      60       0       1      -2       1      -2       2      -2
## 4      85      50      70       2      -2       1      -2       1      -2
## 5      10      20      70       2      -2       1      -2       1      -2
## 6      60      85      15       1      -2       2      -2       1      -2
##   V201164 V201165 V201200 V201201 V201202 V201203 V201204 V201205 V201206
## 1       1      -2       6      -1       1       5       2       6       1
## 2       1      -2       4       1       7       2       6       6       3
## 3       1      -2       2      -1       3       7       3       7       3
## 4       2      -2       3      -1       6       4       4       5       3
## 5       1      -2       5      -1       1       4       1       5       1
## 6       1      -2       4       1       3       6       4       4       3
##   V201207 V201208 V201209 V201210 V201211 V201212 V201213 V201214 V201215
## 1       5       4       5       5       5       1       1       1       3
## 2       6       5       5       5       5       5       5       5       4
## 3       7       3       3       2       3       5       5       5       5
## 4       4       2       2       2       2       5       5       5       5
## 5       5       4       4       5       5       3       2       2       3
## 6       7       2       1       2       1       5       5       5       5
##   V201216 V201217 V201217z V201218 V201219 V201219z V201220 V201221 V201222
## 1       1       2       -2       2       2       -2       2       1      -1
## 2       1       5       -2       1       5       -2       1       3      -1
## 3       1       1       -2       2       1       -2       1      -1       3
## 4       2       1       -2       2       1       -2       2      -1       2
## 5       1       2       -2       1       1       -2       1      -1       2
## 6       1       1       -2       1       2       -2       1       2      -1
##   V201223 V201224 V201225x V201226 V201227 V201228 V201228z V201229 V201230
## 1       1      -1       1       2       1       2       -2       1      -1
## 2      -1      -1       4       4       2       5       -2      -1       2
## 3      -1      -1       4       1       2       3       -2      -1       3
## 4       1      -1       1       2       3       2       -2       2      -1
## 5       1      -1       1       3       2       3       -2      -1       2
## 6      -1       2       6       3       2       3       -2      -1       3
##   V201231x V201232 V201233 V201234 V201235 V201236 V201237 V201238 V201239
## 1       7       4       5       1       1       2       3       3       4
## 2       4      -1       5       1       1       1       4       3       3
## 3       3       5       4       1       1       3       4       2       2
## 4       6       3       3       1       2       4       2       1       4
## 5       4       1       5       1       1       2       4       2       4
## 6       3       4       4       1       1       2       2       2       3
##   V201240 V201241 V201242 V201243 V201244 V201246 V201247 V201248 V201249
## 1       5       5       5       5       5       1       7       4       7
## 2       3       3       3       3       3       3       5       4       4
## 3       1       1       1       1       1       6       4       1       1
## 4       3       3       4       3       3       7       7       3       4
## 5       4       5       4       3       3       2       7       2       4
```

```
## 6        2        2        3        1        1       99        5        5       99
##     V201250 V201251 V201252 V201253 V201254 V201255 V201256 V201257 V201258
## 1        1        6        7        1        7        7        1        5        7
## 2        4        4        4        1        4        5        2        6        4
## 3        4        7        2        3        7        4        4        7        3
## 4        4        7        1        6        4        7        6        1       99
## 5        1        5        5        1        6        7        1        7        6
## 6        6        2        3        3        7        4        3        7        3
##     V201259 V201260 V201262 V201263 V201264 V201300 V201301 V201302x V201303
## 1        1        5        7        1        7        3       -1        3        2
## 2        1        4       99        1        7        3       -1        3        1
## 3        4        7        1        2        7        1        2        2        1
## 4        1        7        1        2        7        3       -1        3        1
## 5        1        4        4        1        4        3       -1        3        2
## 6        1        7       99        1        7        1        2        2        1
##     V201304 V201305x V201306 V201307 V201308x V201309 V201310 V201311x V201312
## 1        1        5        1        1        1        2        1        5        2
## 2        1        1        3       -1        3        3       -1        3        2
## 3        1        1        2        1        5        3       -1        3        1
## 4        1        1        3       -1        3        1        1        1        3
## 5        1        5        1        2        2        1        1        1        3
## 6        1        1        2        2        4        3       -1        3        3
##     V201313 V201314x V201315 V201316 V201317x V201318 V201319 V201320x V201321
## 1        1        5        3       -1        3        2        1        5        2
## 2        1        5        3       -1        3        3       -1        3        3
## 3        1        1        1        2        2        1        1        1        1
## 4       -1        3        1        1        1        3       -1        3        3
## 5       -1        3        1        2        2        3       -1        3        3
## 6       -1        3        1        1        1        1        2        2        1
##     V201322 V201323x V201324 V201325 V201326 V201327x V201328 V201329 V201330x
## 1        1        5        2        2       -1        3        1        2        2
## 2       -1        3        3        2       -1        3        2       -1        3
## 3        1        1        4        3        1        5        3        2        4
## 4       -1        3        4        3        1        5        2       -1        3
## 5       -1        3        4        3        1        5        1        1        1
## 6        1        1        3        2       -1        3        1        2        2
##     V201331 V201332 V201333x V201334 V201335 V201336 V201336z V201337 V201338
## 1        3        2        4        3        2        2       -2        5        4
## 2        1        2        2        1        3        4       -2        5        4
## 3        3        1        5        1        4        4       -2        5        4
## 4        3        1        5        2        4        1       -2        4        1
## 5        3        1        5        3        5        3       -2        5        4
## 6        3        1        5        2        3        4       -2        2        4
##     V201339 V201340 V201341 V201342x V201343 V201344 V201345x V201346 V201347
## 1        2        1        2        2        1        1        1        3        2
## 2        2        2        1        7        1        1        1        1        1
## 3        2        2        1        7        2        1        4        1        2
## 4        4        3       -1        4        1        1        1        1        2
## 5        2        1        2        2        1        2        2        2        2
## 6        1        3       -1        4        1        2        2        1        2
##     V201348 V201349x V201350 V201351 V201352 V201353 V201354 V201355 V201356x
## 1        2        3        3        3        3        5        2        1        7
## 2        1        1        3        2        2        2        2        1        7
## 3        1        4        4        3        4        5        1        2        2
```

```
## 4       2       3       2       4       4       2       3      -1       4
## 5       2       3       4       2       2       1       2       1       7
## 6       2       3       4       3       2       3       3      -1       4
##   V201357 V201358 V201359x V201360 V201361 V201362x V201363 V201364 V201365
## 1       1       1        1       2       1        7       1       1       4
## 2       1       1        1       2       2        6       1       1       3
## 3       2       2        6       1       1        1       3      -1       3
## 4       1       2        2       1       2        2       1       1       2
## 5       1       1        1       1       3        3       2      -1       4
## 6       1       1        1       1       2        2       1       3       3
##   V201366 V201367 V201368 V201369 V201370 V201371 V201372x V201373 V201374
## 1       5       5       5       5       3      -1        4       3      -1
## 2       5       4       4       3       2       1        7       3      -1
## 3       5       5       5       5       2       1        7       2       1
## 4       4       4       5       4       3      -1        4       3      -1
## 5       5       5       5       1       1       2        2       3      -1
## 6       5       5       5       2       2       2        6       2       1
##   V201375x V201376 V201377 V201378 V201379 V201380 V201381 V201382x V201383
## 1        4       1       1       3       1       2       2        6       2
## 2        4       1       1       5       1       3      -1        4       3
## 3        7       5       3       5       1       1       1        1       1
## 4        4       3       4       3       2       1       2        2       2
## 5        4       4       2       2       1       1       2        2       2
## 6        7       4       4       5       1       1       1        1       1
##   V201384 V201385 V201386x V201387 V201388 V201389x V201390 V201391 V201392x
## 1       2       1        7       1       1        1       3      -1        3
## 2       2       2        6       1       2        2       3      -1        3
## 3       1       1        1       2       1        7       2       1        5
## 4       1       2        2       2       2        6       2       2        4
## 5       2       1        7       1       1        1       3      -1        3
## 6       1       1        1       2       1        7       2       1        5
##   V201393 V201394 V201395 V201396x V201397 V201398 V201399 V201400x V201401
## 1       1       2       1        5       3      -1      -1        3       2
## 2       3       3      -1        3       1       1      -1        1       3
## 3       3       1       2        2       1       1      -1        1       1
## 4       4       1       2        2       3      -1      -1        3       3
## 5       1       1       1        1       1       1      -1        1       3
## 6       5       1       2        2       1       2      -1        2       1
##   V201402 V201403 V201404 V201405x V201406 V201407 V201408x V201409 V201410
## 1       1       2       1        7       1       1        1       1       1
## 2      -1       1       1        1       1       2        2       2       2
## 3       1       1       1        1       2       1        6       2       1
## 4      -1       1       1        1       2       2        5       1       2
## 5      -1       1       3        3       1       1        1       1       1
## 6       1       3      -1        4       2       3        4       2       3
##   V201411x V201412 V201413 V201414x V201415 V201416 V201417 V201418 V201419
## 1        1       1       1        1       1       3       1       2       1
## 2        5       1       1        1       1       1       3       3      -1
## 3        6       1       1        1       1       1       4       2       1
## 4        2       1       1        1       1       1       1       1       2
## 5        1       2       2        3       1       2       2       1       1
## 6        4       1       1        1       1       1       3       3      -1
##   V201420x V201421 V201422 V201423x V201424 V201425 V201426x V201427 V201428
## 1        7       1       1        1       1       1        1       1       5
```

```
## 2        4        2        2        5        3       -1        4        2        3
## 3        7        2        1        6        2        1        7        2        1
## 4        2        2        2        5        2        2        6        3        3
## 5        1        2        3        4        1        1        1        1        5
## 6        4        2        1        6        2        1        7        1        1
##   V201429 V201430 V201431 V201432x V201433 V201434 V201434z V201435 V201436
## 1       7       1       1        1       2       3       -2      11      -1
## 2       1       3      -1        3       5       3       -2      12       4
## 3       4       2       2        4       3       3       -2      11      -1
## 4       7       1       1        1       1       1       -2       2      -1
## 5       7       1       1        1       4       2       -2      12       4
## 6       1       2       2        4       3       3       -2      10      -1
##   V201437 V201437z V201438 V201438z V201439 V201439z V201440 V201440z V201441
## 1      -3      -3      -3       -3      -3       -3      -3       -3      -3
## 2      -3      -3      -3       -3      -3       -3      -3       -3      -3
## 3      -3      -3      -3       -3      -3       -3      -3       -3      -3
## 4      -3      -3      -3       -3      -3       -3      -3       -3      -3
## 5      -3      -3      -3       -3      -3       -3      -3       -3      -3
## 6      -3      -3      -3       -3      -3       -3      -3       -3      -3
##   V201441z V201442 V201442z V201443 V201443z V201444 V201444z V201445 V201445z
## 1      -3      -3      -3      -3       -3      -3       -3      -3       -3
## 2      -3      -3      -3      -3       -3      -3       -3      -3       -3
## 3      -3      -3      -3      -3       -3      -3       -3      -3       -3
## 4      -3      -3      -3      -3       -3      -3       -3      -3       -3
## 5      -3      -3      -3      -3       -3      -3       -3      -3       -3
## 6      -3      -3      -3      -3       -3      -3       -3      -3       -3
##   V201446 V201447 V201447z V201448 V201449 V201450 V201451 V201451z V201452
## 1      -3      -3      -3       -3      -3      -3      -3       -3       2
## 2      -3      -3      -3       -3      -3      -3      -3       -3       1
## 3      -3      -3      -3       -3      -3      -3      -3       -3       1
## 4      -3      -3      -3       -3      -3      -3      -3       -3       2
## 5      -3      -3      -3       -3      -3      -3      -3       -3       2
## 6      -3      -3      -3       -3      -3      -3      -3       -3       2
##   V201453 V201454 V201456 V201457x V201458x V201459 V201460 V201461 V201462
## 1      -1      -1      -1      727        8       4      -1      -1      12
## 2       5      -1      -1      880        9       4      -1      -1      13
## 3       3      -1       1      303        8       4      -1      -1       8
## 4      -1      -1       2      400        5       4      -1      -1       5
## 5      -1      -1      -1      880        9       4      -1      -1      12
## 6      -1      -1      -1      882        9      -1      -1      -1       5
##   V201501 V201502 V201503 V201504 V201505 V201506 V201507x V201508 V201509
## 1       2       3       3      -3      -3      -3       46       4       1
## 2       2       5       2      -3      -3      -3       37       1      -1
## 3       3       3       3      -3      -3      -3       40       1      -1
## 4       4       3       3      -3      -3      -3       41       1      -1
## 5       2       3       3      -3      -3      -3       72       3       2
## 6       0       3       3      -3      -3      -3       71       4       2
##   V201510 V201510z V201511x V201512 V201513 V201513z V201514x V201515 V201516
## 1       6      -2        4      -1       5       -3        4      -1       3
## 2       3      -2        3      -1       2       -3        2       2       3
## 3       2      -2        2       2       5       -3        4      -1       3
## 4       4      -2        3      -1       4       -3        3      -1       3
## 5       8      -2        5      -1      -1       -3       -1      -1       3
## 6       3      -2        3      -1      -1       -3       -1      -1       3
```

```
##    V201517 V201518 V201519 V201520 V201521 V201522 V201523 V201524 V201525
## 1        1      -1      -1      -1      -1      -1      -1      -1       2
## 2        1      -1      -1      -1      -1      -1      -1      -1       1
## 3        2       2       2       2      -1       2      -1       3      -1
## 4        1      -1      -1      -1      -1      -1      -1      -1       1
## 5        2       2       2       2      -1       2      -1       3      -1
## 6        2       2       2       2      -1       2      -1       3      -1
##    V201526 V201527 V201528 V201529 V201530 V201530y V201531 V201531y V201532
## 1       50      40       3       1      -3       -3      -3       -3      -3
## 2       -1      40       3       1      -3       -3      -3       -3      -3
## 3       -1      -1      -1       2      -3       -3      -3       -3      -3
## 4       -1      40       3       1      -3       -3      -3       -3      -3
## 5       -1      -1      -1       8      -3       -3      -3       -3      -3
## 6       -1      -1      -1       1      -3       -3      -3       -3      -3
##    V201533x V201534x V201537a V201537b V201537c V201537d V201537e V201538
## 1        10        1        0        0        0        0        1      -1
## 2        10        1        0        0        0        0        1      -1
## 3        70        7        1        0        0        0        0      -1
## 4        10        1        0        0        0        0        1      -1
## 5        50        5        0        1        0        0        0       4
## 6        50        5        0        1        0        0        0       4
##    V201539 V201540 V201541 V201542 V201543 V201544 V201545 V201546 V201547a
## 1        2       3       2       1      -3       2      -1       1      -3
## 2        1       4       1       1      -3       2      -1       2      -3
## 3       -1      -1      -1       7      -3       2      -1       2      -3
## 4        2       5       2       4      -3       2      -1       2      -3
## 5       -1      -1      -1      -1      -3       2      -1       2      -3
## 6       -1      -1      -1      -1      -3       2      -1       2      -3
##    V201547b V201547c V201547d V201547e V201547z V201549x V201550 V201551 V201552
## 1       -3       -3       -3       -3       -3        3      -3      -1      -3
## 2       -3       -3       -3       -3       -3        4      -3      -1      -3
## 3       -3       -3       -3       -3       -3        1      -3      -1      -3
## 4       -3       -3       -3       -3       -3        4      -3      -1      -3
## 5       -3       -3       -3       -3       -3        5      -3      -1      -3
## 6       -3       -3       -3       -3       -3        1      -3      -1      -3
##    V201553 V201554 V201554z V201555 V201556 V201556z V201557 V201558x V201559
## 1        2       4       -3       2      -3       -3      -3        3       2
## 2        1       1       -3       0      -3       -3      -3        7      -1
## 3        1       1       -3       0      -3       -3      -3        7      -1
## 4        3       4       -3       4      -3       -3      -3        7      -1
## 5        1       1       -3       4      -3       -3      -3        7      -1
## 6        1       1       -3       0      -3       -3      -3        7      -1
##    V201560 V201561 V201562 V201563 V201564a V201564b V201564c V201564d V201564e
## 1       -3      -3       1       2       -3       -3       -3       -3       -3
## 2       -3      -3      -1       2       -3       -3       -3       -3       -3
## 3       -3      -3      -1       2       -3       -3       -3       -3       -3
## 4       -3      -3      -1       2       -3       -3       -3       -3       -3
## 5       -3      -3      -1       2       -3       -3       -3       -3       -3
## 6       -3      -3      -1       2       -3       -3       -3       -3       -3
##    V201565x V201566 V201567 V201568a V201568b V201568c V201568d V201568e V201569
## 1        1       2       0       -1       -1       -1       -1       -1       1
## 2        1       1       1        1        0        0        0        0       1
## 3        1       1       2        1        0        0        0        0       1
## 4        4       2       1        1        0        0        0        0       1
```

```
## 5        1        2        0       -1       -1       -1       -1       -1        1
## 6        1        1        0       -1       -1       -1       -1       -1        1
##   V201570 V201571 V201572 V201573 V201574 V201575 V201575z V201576 V201577
## 1      -1       1       1      -1       1      40       -3      10      -3
## 2      -1       2       1      -1       1       6       -3       5      -3
## 3      -1       1       1      -1       1      51       -3      16      -3
## 4      -1       2       1      -1       1       6       -3      20      -3
## 5      -1       1       1      -1       2      12       -3      10      -3
## 6      -1       2       1      -1       1      48       -3       2      -3
##   V201579 V201580 V201581 V201582 V201583 V201584 V201585 V201586 V201587
## 1      -3      -3      -1       1       1       2      -3       2      10
## 2      -3      -3      -1       1       1       1      -3       1       4
## 3      -3      -3      -1       1       1       1      -3       1      11
## 4      -3      -3      -1       1       1       2      -3       2      20
## 5      -3      -3      -1       1       1       2      -3       2      10
## 6      -3      -3      -1       2      -1       1      -3       1       2
##   V201588 V201589 V201590 V201591 V201592 V201593 V201594 V201595 V201596
## 1      -3       1       1      -1       2       1       5       1       1
## 2      -3       1       2      -1       2       5       1       5       1
## 3      -3       1       2      -1       2       3       3       2       2
## 4      -3       1       1      -1       2       3       2       2       2
## 5      -3       1       1      -1       2       1       4       1       2
## 6      -3       1       2      -1       2       2       4       1       1
##   V201600 V201601 V201601z V201602 V201603 V201604 V201605x V201606 V201607
## 1       1       1       -2       1       1       1        1       1      -3
## 2       2       1       -2       1       1       2        2       1      -3
## 3       2       1       -2       3       3      -1        4       1      -3
## 4       1       1       -2       1       1       2        2       2      -3
## 5       1       1       -2       1       1       2        2       1      -3
## 6       2       1       -2       1       1       3        3       2      -3
##   V201608 V201609 V201610 V201611 V201612 V201613 V201614 V201615 V201616
## 1      -3      -3      -3      -3      -3      -3      -3      -3      -3
## 2      -3      -3      -3      -3      -3      -3      -3      -3      -3
## 3      -3      -3      -3      -3      -3      -3      -3      -3      -3
## 4      -3      -3      -3      -3      -3      -3      -3      -3      -3
## 5      -3      -3      -3      -3      -3      -3      -3      -3      -3
## 6      -3      -3      -3      -3      -3      -3      -3      -3      -3
##   V201617x V201618 V201619 V201620 V201621 V201622 V201623 V201624 V201625
## 1       21       5       3       1       1       1       4       2       2
## 2       13       2       2       2      -1       5       3       2       2
## 3       17       1       2       1       2       2       4       2       1
## 4        7       4       3       1       5       4       3       2       2
## 5       22       5       5       1       3       1       3       2       2
## 6        3       3       2       1       5       2       4       2       2
##   V201626 V201627 V201628 V201629a V201629b V201629c V201629d V201629e V201630a
## 1       4       1       3        1        0        1        1        0        0
## 2       3       2       0        1        0        1        0        0        0
## 3       2       3       0        1        1        1        1        0        0
## 4       2       4       0        1        0        0        0        0        0
## 5       2       4       0        1        0        1        1        0        0
## 6       2       3       0        1        0        0        0        0        0
##   V201630b V201630c V201630d V201630e V201630f V201630g V201630h V201630i
## 1        0        0        0        0        0        0        0        0
## 2        0        0        0        0        0        0        0        0
```

```
## 3          0         0         0         0         0         0         0         0
## 4          0         0         0         0         0         0         0         0
## 5          0         0         0         0         0         1         0         0
## 6          0         0         0         0         0         0         0         0
##   V201630j V201630k V201630m V201630n V201630p V201630q V201630r V201630s
## 1        0        0        0        0        0        0        0        1
## 2        0        0        0        0        0        0        0        1
## 3        0        0        0        0        0        0        0        1
## 4        0        0        0        0        0        0        0        0
## 5        0        1        0        0        0        0        0        0
## 6        0        0        1        0        1        0        0        0
##   V201631a V201631b V201631c V201631d V201631e V201631f V201631g V201631h
## 1        0        0        0        0        0        0        0        0
## 2        0        0        0        0        0        0        0        0
## 3        0        0        0        0        0        0        0        0
## 4        1        0        0        0        0        0        0        0
## 5        0        0        1        0        0        0        0        0
## 6        0        0        0        0        0        1        0        0
##   V201631i V201631j V201631k V201631m V201631n V201631p V201631q V201631r
## 1        0        0        0        0        0        0        0        0
## 2        0        0        0        0        0        0        0        0
## 3        0        0        0        0        0        0        0        0
## 4        0        1        0        0        0        0        0        0
## 5        0        0        0        0        0        0        0        0
## 6        0        0        0        0        1        1        0        0
##   V201631s V201632a V201632b V201632c V201632d V201632e V201632f V201632g
## 1        0        0        0        0        0        0        0        0
## 2        0       -1       -1       -1       -1       -1       -1       -1
## 3        1       -1       -1       -1       -1       -1       -1       -1
## 4        0       -1       -1       -1       -1       -1       -1       -1
## 5        0       -1       -1       -1       -1       -1       -1       -1
## 6        0       -1       -1       -1       -1       -1       -1       -1
##   V201632h V201632i V201632j V201632k V201632m V201632n V201632p V201632q
## 1        0        0        0        0        0        0        0        0
## 2       -1       -1       -1       -1       -1       -1       -1       -1
## 3       -1       -1       -1       -1       -1       -1       -1       -1
## 4       -1       -1       -1       -1       -1       -1       -1       -1
## 5       -1       -1       -1       -1       -1       -1       -1       -1
## 6       -1       -1       -1       -1       -1       -1       -1       -1
##   V201632r V201632s V201633a V201633b V201633c V201633d V201633e V201633f
## 1        0        1        1        1        0        1        0        0
## 2       -1       -1       -1       -1       -1       -1       -1       -1
## 3       -1       -1        0        0        1        1        0        1
## 4       -1       -1       -1       -1       -1       -1       -1       -1
## 5       -1       -1        0        0        0        0        0        0
## 6       -1       -1       -1       -1       -1       -1       -1       -1
##   V201633g V201633h V201633i V201633j V201633k V201633m V201633n V201633p
## 1        0        1        0        0        0        0        0        0
## 2       -1       -1       -1       -1       -1       -1       -1       -1
## 3        0        0        0        0        0        0        0        0
## 4       -1       -1       -1       -1       -1       -1       -1       -1
## 5        0        0        0        0        0        0        0        0
## 6       -1       -1       -1       -1       -1       -1       -1       -1
##   V201633q V201633r V201634a V201634b V201634c V201634d V201634e V201634f
```

```
## 1        0        0        0        0        0        0        0        0
## 2       -1       -1        1        0        1        0        0        0
## 3        1        0        1        1        1        0        0        0
## 4       -1       -1       -1       -1       -1       -1       -1       -1
## 5        0        0        0        0        0        0        1        0
## 6       -1       -1       -1       -1       -1       -1       -1       -1
##    V201634g V201634h V201634i V201634j V201634k V201634m V201634n V201634p
## 1        0        0        0        0        0        0        0        0
## 2        1        0        0        0        0        0        0        1
## 3        1        1        0        1        1        0        0        1
## 4       -1       -1       -1       -1       -1       -1       -1       -1
## 5        0        0        0        0        0        0        0        0
## 6       -1       -1       -1       -1       -1       -1       -1       -1
##    V201634q V201634r V201634s V201635a V201635b V201635c V201635d V201635e
## 1        0        0        0       -1       -1       -1       -1       -3
## 2        0        0        0       -1       -1       -1       -1       -3
## 3        0        0        0        0        0        0        0       -3
## 4       -1       -1       -1       -1       -1       -1       -1       -3
## 5        0        0        0       -1       -1       -1       -1       -3
## 6       -1       -1       -1       -1       -1       -1       -1       -3
##    V201635f V201635g V201635h V201635i V201635j V201635k V201636a V201636b
## 1       -3       -3       -3       -3       -3       -1       -1       -1
## 2       -3       -3       -3       -3       -3       -1       -1       -1
## 3       -3       -3       -3       -3       -3        1        0        0
## 4       -3       -3       -3       -3       -3       -1       -1       -1
## 5       -3       -3       -3       -3       -3       -1       -1       -1
## 6       -3       -3       -3       -3       -3       -1       -1       -1
##    V201636c V201636d V201636e V201636f V201636g V201636h V201636i V201636j
## 1       -1       -1       -3       -3       -3       -3       -3       -3
## 2       -1       -1       -3       -3       -3       -3       -3       -3
## 3        0        1       -3       -3       -3       -3       -3       -3
## 4       -1       -1       -3       -3       -3       -3       -3       -3
## 5       -1       -1       -3       -3       -3       -3       -3       -3
## 6       -1       -1       -3       -3       -3       -3       -3       -3
##    V201636k V201637x V201639 V201640 V201641 V201642 V201643 V201644 V201645
## 1       -1        0       1       3       1    1896       1       6       3
## 2       -1        0       4       4       1    1963      -1       2       4
## 3        0        0       2       4       1    2017      -1       6       1
## 4       -1        0       3       3       1    1896       1       4       1
## 5       -1        0       2       2       1    2010      -1       6       1
## 6       -1        0       2       3       1    2000      -1       8       3
##    V201646 V201647 V201648 V201649 V201650 V201651 V201652 V201653 V201654
## 1       1       2       5       1       5       1      -2      -1      -1
## 2       2       1       5       2       5       3      -2      -1      -1
## 3       1       2       5       1       5       3      -2      -1      -1
## 4       2       1       5       2       5       1      -2      -1      -1
## 5       1       2       4       1       5       2      -2      -1      -1
## 6       1       2       5       2       5       4      -2      -1      -1
##    V201655 V201656 V201657 V201658a V201658b V201658c V201658d V201658e V201658f
## 1      -1      -1      -1       -1       -1       -1       -1       -1       -1
## 2      -1      -1      -1       -1       -1       -1       -1       -1       -1
## 3      -1      -1      -1       -1       -1       -1       -1       -1       -1
## 4      -1      -1      -1       -1       -1       -1       -1       -1       -1
## 5      -1      -1      -1       -1       -1       -1       -1       -1       -1
```

```
## 6       -1       -1       -1       -1       -1       -1       -1       -1       -1
##    V201658g V201658h V201658i V201658j V201658k V201658m V201658n V201658p
## 1       -1       -1       -1       -1       -1       -1       -1       -1
## 2       -1       -1       -1       -1       -1       -1       -1       -1
## 3       -1       -1       -1       -1       -1       -1       -1       -1
## 4       -1       -1       -1       -1       -1       -1       -1       -1
## 5       -1       -1       -1       -1       -1       -1       -1       -1
## 6       -1       -1       -1       -1       -1       -1       -1       -1
##    V202001 V202002a V202002b V202003 V202004 V202005 V202006 V202007 V202008
## 1       1       -1       -1       -1       -1       2       -1       2       2
## 2       1       -1       -1       -1       1       -1       3       1       1
## 3       1       -1       -1       -1       1       -1       3       2       1
## 4       1       -1       -1       -1       -1       2       -1       2       2
## 5       1       -1       -1       -1       2       -1       -1       2       2
## 6       1       -1       -1       -1       1       -1       1       2       2
##    V202009 V202010 V202011 V202012 V202013 V202014 V202015 V202016 V202017
## 1       2       -1       -1       -1       2       2       2       2       2
## 2       2       2       -1       -1       1       1       2       2       2
## 3       1       -1       -1       -1       2       2       1       1       1
## 4       2       -1       -1       -1       2       2       2       2       2
## 5       2       -1       -1       -1       2       2       2       2       2
## 6       1       -1       -1       -1       2       2       2       2       1
##    V202018 V202019 V202020 V202021 V202022 V202023 V202024 V202025 V202026
## 1       -3       2       -3       2       1       0       1       2       2
## 2       -3       2       -3       2       1       1       2       2       2
## 3       -3       2       -3       1       1       7       1       1       1
## 4       -3       2       -3       2       1       2       2       2       2
## 5       -3       2       -3       2       2       -1       2       2       2
## 6       -3       2       -3       2       1       3       1       2       2
##    V202027 V202028 V202029 V202030 V202031 V202032 V202033 V202034 V202035
## 1       2       2       1       2       2       2       2       2       -2
## 2       2       2       2       2       2       2       2       2       -2
## 3       1       1       1       1       2       2       1       1       -2
## 4       2       2       2       2       2       2       2       2       -2
## 5       2       2       2       2       2       2       2       2       -2
## 6       2       2       2       2       2       2       2       2       -2
##    V202036 V202037 V202038 V202039 V202040 V202041 V202042 V202043 V202044
## 1       2       -2       2       -2       2       -2       3       -1       -1
## 2       2       -2       2       -2       2       -2       1       2       -1
## 3       2       -2       1       -2       2       -2       4       -1       -1
## 4       2       -2       2       -2       2       -2       1       -1       -1
## 5       2       -2       2       -2       2       -2       1       -1       -1
## 6       2       -2       2       -2       2       -2       1       -1       -1
##    V202045 V202050a V202050b V202050c V202051 V202052 V202053a V202053b V202053c
## 1       -1       1       1       1       -1       -1       -1       -1       -1
## 2       -1       1       1       1       -1       -1       -1       -1       -1
## 3       -1       2       1       1       -1       -1       -1       -1       -1
## 4       -1       2       1       1       -1       -1       -1       -1       -1
## 5       -1       2       1       1       -1       -1       -1       -1       -1
## 6       -1       1       1       1       -1       -1       -1       -1       -1
##    V202054a V202054b V202054c V202054x V202055a V202055b V202055c V202055d
## 1       -1       -1       -1       40       -1       -1       -1       -1
## 2       -1       -1       -1       16       -1       -1       -1       -1
## 3       -1       -1       -1       51       -1       -1       -1       -1
```

```
## 4       -1       -1       -1        6       -1       -1       -1       -1
## 5       -1       -1       -1        8       -1       -1       -1       -1
## 6       -1       -1       -1       48       -1       -1       -1       -1
##    V202056 V202060 V202060z V202061 V202061x V202062 V202063x V202064 V202064z
## 1        3      -1       -3      -1        3      -3        1      -1       -3
## 2        4      -1       -3      -1        3      -3        1      -1       -3
## 3        4      -1       -3      -1        3      -3        1      -1       -3
## 4        4      -1       -3      -1        3      -3        1      -1       -3
## 5        4      -1       -3      -1        2      -3        1      -1       -3
## 6        4      -1       -3      -1        2      -3        1      -1       -3
##    V202065x V202066 V202068x V202072 V202073 V202073z V202074 V202075 V202075y
## 1        2       1        1      -1      -1       -2      -1      -2       -1
## 2        4       4        2       1       3       -2       1      -2        8
## 3       -1       4        2       1       1       -2       1      -2       11
## 4        2       4        2       1       1       -2       1      -2       13
## 5        4       4        2       1       2       -2       1      -2       11
## 6       -1       4        2       1       1       -2       1      -2       11
##    V202076 V202077 V202077z V202078 V202079x V202080 V202081 V202081z V202082
## 1        1       2       -2       1       21      -1      -1       -2      -2
## 2       -1      -1       -2      -1       -1       2      -1       -2      -2
## 3       -1      -1       -2      -1       -1       1       1       -2      -2
## 4       -1      -1       -2      -1       -1       1       2       -2      -2
## 5       -1      -1       -2      -1       -1       1       2       -2      -2
## 6       -1      -1       -2      -1       -1       2      -1       -2      -2
##    V202082y V202083 V202084 V202084z V202085 V202085y V202087 V202088 V202088z
## 1       -1       1       2       -2      -2       -1      -1      -1       -2
## 2       -1      -1      -1       -2      -2       -1       2      -1       -2
## 3       -1      -1      -1       -2      -2       -1       1       1       -2
## 4       -1      -1      -1       -2      -2       -1      -1      -1       -2
## 5       -1      -1      -1       -2      -2       -1       1       2       -2
## 6       -1      -1      -1       -2      -2       -1       1       1       -2
##    V202089 V202089y V202090 V202091 V202091z V202092 V202092y V202093 V202094
## 1       -2      -1       1       2      -2      -2       -1      -1      -1
## 2       -2      -1      -1      -1      -2      -2       -1      -1      -1
## 3       -2      -1      -1      -1      -2      -2       -1      -1      -1
## 4       -2      -1      -1      -1      -2      -2       -1      -1      -1
## 5       -2      -1      -1      -1      -2      -2       -1      -1      -1
## 6       -2      -1      -1      -1      -2      -2       -1      -1      -1
##    V202094z V202095 V202095y V202096 V202097 V202097z V202098 V202098y V202099
## 1       -2      -2       -1      -1      -1       -2      -2       -1      -1
## 2       -2      -2       -1      -1      -1       -2      -2       -1      -1
## 3       -2      -2       -1      -1      -1       -2      -2       -1      -1
## 4       -2      -2       -1      -1      -1       -2      -2       -1      -1
## 5       -2      -2       -1      -1      -1       -2      -2       -1      -1
## 6       -2      -2       -1      -1      -1       -2      -2       -1      -1
##    V202100 V202100z V202101 V202101y V202102 V202103 V202103z V202104 V202104y
## 1       -1      -2       -2      -1      -1      -1       -2      -2       -1
## 2       -1      -2       -2      -1      -1      -1       -2      -2       -1
## 3       -1      -2       -2      -1      -1      -1       -2      -2       -1
## 4       -1      -2       -2      -1      -1      -1       -2      -2       -1
## 5       -1      -2       -2      -1      -1      -1       -2      -2       -1
## 6       -1      -2       -2      -1      -1      -1       -2      -2       -1
##    V202105x V202106x V202107x V202108x V202109x V202110x V202111x V202112x
## 1       31       31       31      -1        0      -1      -1       -1
```

```
## 2        12        -1        -1        -1         1         3        -1        -1
## 3        10        10        10        -1         1         1         1         1
## 4        10        11        -1        -1         1         1         2        -1
## 5        11        11        11        -1         1         2         2         2
## 6        10        -1        10        -1         1         1        -1         1
##    V202113x V202114a V202114b V202114c V202114d V202114e V202114f V202114g
## 1        -1        -1        -1        -1        -1        -1        -1        -1
## 2        -1        -1        -1        -1        -1        -1        -1        -1
## 3        -1        -1        -1        -1        -1        -1        -1        -1
## 4        -1        -1        -1        -1        -1        -1        -1        -1
## 5        -1        -1        -1        -1        -1        -1        -1        -1
## 6        -1        -1        -1        -1        -1        -1        -1        -1
##    V202114h V202114i V202114j V202114k V202114z V202115 V202116 V202117 V202118
## 1        -1        -1        -1        -1        -2        -2        -1        -1        -1
## 2        -1        -1        -1        -1        -2        -2         1        -1         2
## 3        -1        -1        -1        -1        -2        -2         3        -1         1
## 4        -1        -1        -1        -1        -2        -2         3        -1         1
## 5        -1        -1        -1        -1        -2        -2         3        -1         2
## 6        -1        -1        -1        -1        -2        -2         3        -1         1
##    V202119 V202120a V202120b V202120c V202120d V202120e V202120f V202120g
## 1        -1        -1        -1        -1        -1        -1        -1        -1
## 2         1         0         0         1         0         0         0         0
## 3         2         0         0         0         0         0         0         0
## 4         1         0         0         0         0         0         0         0
## 5         2         0         0         0         0         0         0         0
## 6         2         0         0         0         0         0         0         0
##    V202120h V202120i V202120j V202120k V202120z V202121 V202122 V202123 V202123z
## 1        -1        -1        -1        -1        -2        -1        -1        11        -2
## 2         0         0         0         0        -2         1         1        -1        -2
## 3         0         0         0         1        -2        -1        -1        -1        -2
## 4         0         0         0         1        -2        -1        -1        -1        -2
## 5         0         0         0         1        -2         2         1        -1        -2
## 6         0         0         0         1        -2        -1        -1        -1        -2
##    V202124 V202124z V202125 V202135 V202136 V202136y V202137 V202138 V202138y
## 1        17        -2        -2         1        -2         0        -1        -2         1
## 2        -1        -2        -2         1        -2         0        -1        -2         1
## 3        -1        -2        -2         1        -2         0        -1        -2         1
## 4        -1        -2        -2         1        -2         0        -1        -2         1
## 5        -1        -2        -2         1        -2         0        -1        -2         1
## 6        -1        -2        -2         1        -2         0        -1        -2         1
##    V202139 V202139y1 V202139y2 V202140 V202140y1 V202140y2 V202141 V202141y1
## 1        -2         1         2        -2         0         0        -2         1
## 2        -2         1         2        -2         0         0        -2         1
## 3        -2         1         2        -2         1         1        -2         1
## 4        -2         0         0        -2         0         0        -2         1
## 5        -2         1         2        -2         1         1        -2         1
## 6        -2         1         2        -2         1         1        -2         1
##    V202141y2 V202142 V202142y1 V202142y2 V202143 V202144 V202145 V202146 V202147
## 1         1        -2         0         0         0       100        50       100        -1
## 2         1        -2         0         0        15        15        15         0        -1
## 3         1        -2         2         1        85         0        75         0        -1
## 4         0        -2         0         0       100        60        50        70        -1
## 5         0        -2         0         0         0        90        50        50        -1
## 6         0        -2         1         0       100         0        -9        -9        -1
```

```
##    V202148 V202149 V202150 V202151 V202152 V202152oth V202153 V202154 V202155
## 1      85     100      -1      -1      -1         -1      -1      -1      50
## 2      50       0      -1      -1      -1         -1      -1      -1       0
## 3      80      10      -1      -1      -1         -1      -1      -1      80
## 4      -1      -1      -1      -1      -1         -1      85      -1      -1
## 5       0      50      -1      -1      -1         -1      -1      -1      50
## 6      70      15      -1      -1      -1         -1      -1      -1      15
##    V202156 V202157 V202158 V202159 V202160 V202161 V202162 V202163 V202164
## 1       0      85      50      40      65      30      30      70      85
## 2       0       0      50      50     100       0      70      50      15
## 3      80       0     100       0      75      75      75       0       0
## 4      85      50     100      70      70      70      70      85      70
## 5       0      95       0      50      30      10      50       0      60
## 6      85      15      85      50      60      70      50      40      40
##    V202165 V202166 V202167 V202168 V202169 V202170 V202171 V202172 V202173
## 1     100      85      40      85      85     100      85      70     100
## 2      50     100      15      90     100     100      90      90      70
## 3      25     100       0     100      30     100      40     100     100
## 4      85      70     100      70      70      70     100      70      85
## 5      60      50      10      10      50      90      70      50      60
## 6      60      70      85      50      85     100      70      70      85
##    V202174 V202175 V202176 V202177 V202178 V202179 V202180 V202181 V202182
## 1       0      40      20      15      50       0      60      50     100
## 2      70      15      50      50      50      40      50      50      50
## 3      80      75      80      75       0      75      10      50       0
## 4      50      85      60     100     999     999     999      85      85
## 5       0      50      50      10      70       0      60      20      95
## 6      70      85      50      50      15      60      30      70      40
##    V202183 V202184 V202185 V202186 V202187 V202200 V202201 V202202 V202203x
## 1      40     100      40       0      15       1       1      -1        1
## 2      60      60     100      50      50       2      -1       1        4
## 3      80      75      80      80      80       1       2      -1        2
## 4     999     999      70     100     100       1       1      -1        1
## 5       0      90      10       0      10       1       2      -1        2
## 6      50      85      60      70      70      -9      -1      -1       -2
##    V202204 V202205 V202205y1 V202205y2 V202205y3 V202205y4 V202205y5 V202205y6
## 1       1      -2        32        69        -1        -1        -1        -1
## 2       3      -2        81        -1        -1        -1        -1        -1
## 3       2      -2        47        -1        -1        -1        -1        -1
## 4       2      -2        82        -1        -1        -1        -1        -1
## 5       3      -2        13        82        37        32        21        49
## 6       4      -2        82        48        -1        -1        -1        -1
##    V202205y7 V202205y8 V202205y9 V202205y10 V202205y11 V202205y12 V202205y13
## 1        -1        -1        -1         -1         -1         -1         -1
## 2        -1        -1        -1         -1         -1         -1         -1
## 3        -1        -1        -1         -1         -1         -1         -1
## 4        -1        -1        -1         -1         -1         -1         -1
## 5        55        -1        -1         -1         -1         -1         -1
## 6        -1        -1        -1         -1         -1         -1         -1
##    V202205y14 V202205y15 V202205y16 V202206 V202207 V202207y1 V202207y2
## 1         -1         -1         -1       2      -2        -1        -1
## 2         -1         -1         -1       3      -2        -1        -1
## 3         -1         -1         -1       1      -2        24        -1
## 4         -1         -1         -1       3      -2        27        -1
```

```
## 5          -1          -1          -1           2          -2          13          82
## 6          -1          -1          -1           1          -2          32          -1
##    V202207y3 V202207y4 V202207y5 V202207y6 V202207y7 V202207y8 V202207y9
## 1         -1        -1        -1        -1        -1        -1        -1
## 2         -1        -1        -1        -1        -1        -1        -1
## 3         -1        -1        -1        -1        -1        -1        -1
## 4         -1        -1        -1        -1        -1        -1        -1
## 5         49        21       800        -1        -1        -1        -1
## 6         -1        -1        -1        -1        -1        -1        -1
##    V202207y10 V202207y11 V202207y12 V202207y13 V202208 V202209 V202209y1
## 1          -1         -1         -1         -1       2      -2        -1
## 2          -1         -1         -1         -1      -1      -2        -1
## 3          -1         -1         -1         -1       1      -2        32
## 4          -1         -1         -1         -1       3      -2        24
## 5          -1         -1         -1         -1       2      -2        48
## 6          -1         -1         -1         -1       1      -2        50
##    V202209y2 V202209y3 V202209y4 V202209y5 V202209y6 V202209y7 V202209y8
## 1         -1        -1        -1        -1        -1        -1        -1
## 2         -1        -1        -1        -1        -1        -1        -1
## 3         -1        -1        -1        -1        -1        -1        -1
## 4         -1        -1        -1        -1        -1        -1        -1
## 5         -1        -1        -1        -1        -1        -1        -1
## 6         48        -1        -1        -1        -1        -1        -1
##    V202209y9 V202210 V202211 V202211y1 V202211y2 V202211y3 V202211y4 V202211y5
## 1         -1      -1      -2        -9        -1        -1        -1        -1
## 2         -1      -1      -2        -1        -1        -1        -1        -1
## 3         -1       1      -2        47        -1        -1        -1        -1
## 4         -1       3      -2        82        -1        -1        -1        -1
## 5         -1       2      -2        13        -1        -1        -1        -1
## 6         -1       1      -2        82        -1        -1        -1        -1
##    V202211y6 V202211y7 V202211y8 V202211y9 V202212 V202213 V202214 V202215
## 1         -1        -1        -1        -1       1       3       1       1
## 2         -1        -1        -1        -1       1       1       1       3
## 3         -1        -1        -1        -1       3       4       4       2
## 4         -1        -1        -1        -1       4       4       5       2
## 5         -1        -1        -1        -1       2       2       2       2
## 6         -1        -1        -1        -1       2       2       3       4
##    V202216 V202217 V202218 V202219 V202220 V202221 V202222 V202223 V202224
## 1        1       1       2       2       3       3       3       3       3
## 2        2       1       2       2       3       3       3       3       3
## 3        1       1       2       1       2       2       2       2       1
## 4        1       2      -1       1       5       5       5       5       5
## 5        1       1       2       3       4       4       4       4       4
## 6        1       1       2       2       4       4       4       4       4
##    V202225 V202226 V202227 V202228 V202229 V202230 V202231x V202232 V202233
## 1        1       1       1       5       1       1        1       4       1
## 2        1       3       3       4       2       2        3       3       3
## 3        1       3       3       3       2       2        3       1       4
## 4        1       5       5       2       1       1        1       3       4
## 5        1       4       4       4       1       1        1       5       1
## 6        1       2       3       4       1       2        2       3       3
##    V202234 V202235 V202236x V202237 V202238 V202239x V202240 V202241 V202242x
## 1        3      -1        4       1       2        2       1       1        1
## 2        3      -1        4       1       2        2       1       3        3
```

16

```
## 3        1        1        1        3       -1        4        1        1        1
## 4        2        2        6        1        1        1        1        2        2
## 5        1        2        2        1        1        1        1        1        1
## 6        1        2        2        1        2        2        1        2        2
##   V202243 V202244 V202245x V202246 V202247 V202248x V202249 V202250 V202251
## 1        1        1        1        3       -1        4        2       -1        1
## 2        3       -1        4        2        2        6        2       -1        1
## 3        2        1        7        2        1        7        1        2       -1
## 4        1        2        2        2        2        6        2       -1        1
## 5        1        2        2        3       -1        4        2       -1        2
## 6        2        2        6        2        1        7        2       -1        2
##   V202252x V202253 V202254 V202255x V202256 V202257 V202258 V202259x V202260
## 1        4        1        1        1        7        1        1        1        5
## 2        4        1        2        2        5        3       -1        4        3
## 3        2        2        1        6        2        1        2        2        1
## 4        4        2        2        5        4        1        2        2        1
## 5        3        1        2        2        7        3       -1        4        4
## 6        3        2        3        4        4        3       -1        4        2
##   V202261 V202262 V202263 V202264 V202265 V202266 V202267 V202268 V202269
## 1        1        1        1        3        1        2        2        2        1
## 2        3        3        2        3        4        2        2        2        1
## 3        5        5        1        1        5        1        1        2        1
## 4        1        3        2        2        2        2        2        1        2
## 5        2        3        4        4        2        1        1        2        1
## 6        2        3        2        3        3        2        2        2        1
##   V202270 V202271 V202272 V202273x V202274 V202275 V202276x V202277 V202278
## 1        2        1        1        1        2       -1        4        2        2
## 2        4        3       -1        3        2       -1        4        2        2
## 3        3        3       -1        3        3        2        6        1        1
## 4        3        1        1        1        2       -1        4        3       -1
## 5        5        3       -1        3        3        3        5        2        2
## 6        3        3       -1        3        2       -1        4        3       -1
##   V202279x V202280 V202281 V202282x V202283 V202284 V202285 V202286x V202287
## 1        6        2        1        7        1        1       -1        1        3
## 2        6        3       -1        4        3       -1       -1        4        3
## 3        1        2        2        6        3       -1       -1        4        3
## 4        4        3       -1        4        2       -1        1        7        1
## 5        6        2        2        6        3       -1       -1        4        3
## 6        4        3       -1        4        3       -1       -1        4        3
##   V202288 V202289 V202290x V202291 V202292 V202300 V202301 V202302 V202303
## 1       -1       -1        4        5        4        1        1        5        1
## 2       -1       -1        4        4        4        3        4        4        4
## 3       -1       -1        4        5        4        5        1        1        5
## 4        2       -1        2        3        2        2        4        4        2
## 5       -1       -1        4        2        2        1        2        5        3
## 6       -1       -1        4        4        4        2        2        2        4
##   V202304 V202305 V202306 V202307 V202308x V202309 V202310 V202311 V202312
## 1        3        3        3       -1        3        5        5        4        5
## 2        4        3        3       -1        3        3        4        4        3
## 3        3        3        3       -1        3        4        5        1        1
## 4        3        4        2        1        5        4        5        4        3
## 5        4        3        3       -1        3        1        2        3        4
## 6        4        3        2        2        4        4        5        3        2
##   V202313 V202314 V202315 V202316 V202317 V202318 V202319 V202320x V202321
```

```
## 1        1        2        1        4        1        1        1        1        1
## 2        2        1        3        4        4        2        1        7        3
## 3        3        1        2        4        3        2        3        5        3
## 4        2        3        1        4        4        2        1        7        2
## 5        1        2        4        1        4        2        1        7        1
## 6        1        2        1        2        3        3       -1        4        2
##    V202322 V202323 V202324 V202325 V202326 V202327 V202328x V202329 V202330
## 1      -1      -1      -1       2       2       1        7       3      -1
## 2      -1      -1      -1       1       2       2        6       3      -1
## 3      -1      -1      -1       1       1       1        1       1       1
## 4      -1      -1      -1       1       1       2        2       1       1
## 5      -1      -1      -1       3       3      -1        4       2       1
## 6      -1      -1      -1       1       1       1        1       1       1
##    V202331x V202332 V202333 V202334 V202335 V202336x V202337 V202338 V202339
## 1        4       2       1       3      -1        4       3       1       2
## 2        4       2       2       3      -1        4       3       3       3
## 3        1       5       5       1       1        1       1       2       1
## 4        1       4       4       1       2        2       3       2       1
## 5        7       1       3       2       1        7       3       2       1
## 6        1       5       3       1       1        1       1       3       1
##    V202340 V202341x V202342 V202343 V202344x V202345 V202346 V202347x V202348
## 1       1       7        2       1        7       2       1        7       1
## 2      -1       4        2       2        6       2       1        7       3
## 3       1       1        1       1        1       3      -1        4       1
## 4       1       1        1       1        1       1       1        1       1
## 5       2       2        3      -1        4       2       1        7       1
## 6       1       1        1       1        1       1       1        1       3
##    V202349 V202350x V202351 V202352 V202353 V202354 V202355 V202356 V202356z
## 1       1       1        4       3       2       1       4       2       -2
## 2      -1       4        3       2      -1      -1       3       2       -2
## 3       1       1        3       3       2      -1       3       2       -2
## 4       2       2        5       3       2      -1       2       3       -2
## 5       1       1        2       1      -1      -1       4       4       -2
## 6      -1       4        3       2      -1      -1       3       1       -2
##    V202357 V202358 V202359 V202360 V202361x V202362 V202363 V202364x V202365
## 1       1       4       1       3        3       1       2        2       3
## 2       1       3       3      -1        4       3      -1        3       2
## 3       1       4       3      -1        4       3      -1        3       3
## 4       3       2       1       2        2       3      -1        3       1
## 5       1       3       2       2        6       3      -1        3       2
## 6       1       3       3      -1        4       1       2        2       3
##    V202366 V202367x V202368 V202369 V202370x V202371 V202372 V202373x V202374
## 1      -1       3        3      -1        3       1       1        1       2
## 2       1       5        1       2        2       1       2        2       2
## 3      -1       3        3      -1        3       1       1        1       1
## 4       2       2        2       1        5       3      -1        3       1
## 5       1       5        1       1        1       3      -1        3       3
## 6      -1       3        3      -1        3       1       2        2       3
##    V202375 V202376x V202377 V202378 V202379 V202380x V202381 V202382 V202383x
## 1       1       7        2       2       1        7       1       1        1
## 2       2       6        1       3      -1        4       3      -1        4
## 3       2       2        1       1       1        1       1       1        1
## 4       2       2        2       3      -1        4       3      -1        4
## 5      -1       4        4       3      -1        4       2       1        7
```

```
## 6       -1          4          1          1          2          2          1          1          1
##    V202384 V202385 V202386 V202387x V202388 V202389 V202390x V202400 V202401
## 1        3      -1      -1        3       1       2        2       5       2
## 2        3      -1      -1        3       3      -1        4       5       5
## 3        2      -1       1        5       1       1        1       3       3
## 4        3      -1      -1        3       3      -1        4       3       4
## 5        3      -1      -1        3       2       1        7       5       3
## 6        3      -1      -1        3       3      -1        4       5       5
##    V202402 V202403 V202404 V202405 V202406 V202407 V202408 V202409 V202410
## 1        4       5       3       1       2       2       2       2       3
## 2        3       4       2       1       3       3       2       3       2
## 3        1       3       1       1       1       1       1       4       2
## 4        3       3       2       2       3       3       2       2       4
## 5        3       3       2       3       2       2       1       1       1
## 6        1       5       2       1       2       2       2       3       2
##    V202411 V202412 V202413 V202414 V202415 V202416 V202417 V202418 V202419
## 1        4       1       1       1       2       1       2       2       5
## 2        5       2       3       3       2       3       3       3       4
## 3        5       3       5       1       2       2       5       2       5
## 4        2       4       1       4       3       2       2       2       4
## 5        5       1       3       1       1       3       3       3       3
## 6        4       3       3       3       2       2       3       2       4
##    V202420 V202421 V202422 V202423 V202424 V202425 V202426 V202427 V202428
## 1        2       4       3       1       2       1       4       2       1
## 2        4       3       3       2       3       2       3       2       1
## 3        5       4       4       2       3       2       1       4       1
## 4        4       2       2       1       2       2       2       2       1
## 5        3       4       4       2       3       1       3       3       2
## 6        3       2       2       1       3       3       3       4       1
##    V202429 V202429z V202430 V202431 V202432 V202433 V202434 V202435 V202436
## 1        5       -2       4       4       5       0       7       0       8
## 2        7       -2       3       2       3       4       4       4       4
## 3        1       -2       5       4       5       7       0       8       0
## 4        1       -2       4       3       5       9       5       9       6
## 5       -1       -2       4       5       5       0       4       0       3
## 6        1       -2       4       4       5       8       3       9       0
##    V202437 V202438 V202439 V202440 V202441 V202442 V202443 V202443z V202444
## 1        0       8       7       4       1      -1       3       -2       2
## 2        2       8       5       4       5       5      -1       -2      -1
## 3        4      10       2       4       1      -1       1       -2       2
## 4        8       5       9       2       5       5      -1       -2      -1
## 5        0       4       5       4       5       5      -1       -2      -1
## 6        5       5       5       2       5       1       1       -2       2
##    V202450a V202450b V202450c V202451 V202452 V202453 V202454 V202455 V202456
## 1         0        0        1       5       1       1       1       1       2
## 2         1        0        0       5       3       3       2       2       2
## 3         1        1        0       1       1       1       1       1       2
## 4         1        0        0       5       5       5       2       2       2
## 5         0        1        0       5       1       4       4       1       2
## 6         0        1        0       4       3       3       3       2       2
##    V202457 V202458 V202459 V202460 V202461 V202462 V202463 V202464 V202465
## 1        2      -3      -3      -3      -3      -3      -3      -3      -3
## 2        2      -3      -3      -3      -3      -3      -3      -3      -3
## 3        2      -3      -3      -3      -3      -3      -3      -3      -3
```

```
## 4        2       -3       -3       -3       -3       -3       -3       -3       -3
## 5        2       -3       -3       -3       -3       -3       -3       -3       -3
## 6        2       -3       -3       -3       -3       -3       -3       -3       -3
##    V202466 V202467 V202468x V202469 V202470 V202471 V202472a V202472b V202472c
## 1      -3      -3       21       1       2       1        0        0        0
## 2      -3      -3       13       1       1       1        0        0        0
## 3      -3      -3       17       2      -1       1        1        0        0
## 4      -3      -3        7       2      -1       1        0        0        0
## 5      -3      -3       22       1       3       2       -1       -1       -1
## 6      -3      -3        3       2      -1       2       -1       -1       -1
##    V202472d V202472e V202472f V202473 V202474a V202474b V202474c V202474d
## 1        1        1        0       1        0        0        0        0
## 2        0        1        0       2       -1       -1       -1       -1
## 3        0        0        0       1        1        0        0        0
## 4        1        0        0       2       -1       -1       -1       -1
## 5       -1       -1       -1       2       -1       -1       -1       -1
## 6       -1       -1       -1       2       -1       -1       -1       -1
##    V202474e V202474f V202475 V202476 V202477 V202478 V202479 V202480 V202481
## 1        1        0       3      -1      70      -1      70      60       0
## 2       -1       -1       3      -1      -1      90      85      85      40
## 3        0        0       1       2     100      -1     100     100      80
## 4       -1       -1       3      -1      -1      70      70      70      -9
## 5       -1       -1       3      -1      -1      50      50      50      20
## 6       -1       -1       3      -1      -1      50      60      70      40
##    V202482 V202483 V202484 V202485 V202486 V202487 V202488 V202489 V202490x
## 1      85      -1      -1       4      -1       1       3       2       6
## 2      85      -1      -1      -1      -1       3       2      -1       4
## 3      60       5      -1      -1      -1       5       1       1       1
## 4      70      -1      -1      -1       5       5       2      -1       4
## 5      50      -1      -1      -1      -1       2       3       2       6
## 6      -9       2      -1      -1      -1       4       1       1       1
##    V202491 V202492 V202493x V202494 V202495 V202496 V202497 V202498 V202498x
## 1       2      -1        4       2       2       2       2      -3       4
## 2       2      -1        4       2       2       2       2      -3      -1
## 3       1       1        1       1       3       3       3      -3      -1
## 4       2      -1        4       2       2       2       2      -3      -1
## 5       2      -1        4       1       1       1       1      -3      -1
## 6       1       2        2       2       3       3       3      -3      -1
##    V202499 V202499x V202500 V202500x V202501 V202501x V202502_asian
## 1      -3      -1      -3      -1      -3      -1              -3
## 2      -3      -1      -3      -1      -3      -1              -3
## 3      -3       5      -3      -1      -3      -1              -3
## 4      -3      -1      -3      -1      -3      -1              -3
## 5      -3      -1      -3      -1      -3       2              -3
## 6      -3       3      -3      -1      -3      -1              -3
##    V202502_pacific V202502x V202504 V202505 V202506 V202507 V202508 V202515
## 1                -3      -1       2       3       3      -1      -1       2
## 2                -3       3       3      -1      -1      -1      -1       4
## 3                -3      -1       5       4      -1      -1      -1       5
## 4                -3       5       5      -1      -1      -1       4       5
## 5                -3      -1       4      -1      -1      -1      -1       4
## 6                -3      -1       1       2      -1      -1      -1       3
##    V202516 V202517 V202518 V202519 V202520 V202521 V202522 V202523 V202524
## 1       4      -1       1      -1       2       4       6      -1       3
```

20

```
## 2      4     -1      4     -1      4      4      4     -1      4
## 3      5     -1      5     -1      5      4      4     -1      4
## 4      5     -1      2     -1      2      5      6     -1      5
## 5      5      3     -1      3     -1      5      5      4     -1
## 6      3      2     -1      2     -1      2      2      2     -1
##    V202525 V202526 V202527 V202528 V202529 V202530 V202531 V202532 V202533
## 1     -1      2      3      3      3      3      3      3      3
## 2     -1      4      3      3      3      4      2      4      3
## 3     -1      1      2      2      3      5      2      5      2
## 4     -1      5      4      4      4      5      4      5      5
## 5      5     -1      5      2      3      1      5      1      5
## 6      1     -1      2      3      4      4      2      4      2
##    V202534 V202535 V202536 V202537 V202538 V202539 V202540 V202541a V202541b
## 1      3      3      3      3      3      1      2       1        1
## 2      3      4      2      4      4      2     -1       1        0
## 3      2      5      1      5      4      2     -1       1        1
## 4      5      3      5      5      5      2     -1       1        0
## 5      5      1      5      2      3      1      2       0        0
## 6      4      5      2      5      5      1      1       0        0
##    V202541c V202541d V202541e V202541f V202541g V202541h V202541i V202542
## 1      1        1        1        1        1        0        0      1
## 2      0        1        1        0        0        0        0      2
## 3      1        0        1        0        0        0        0      6
## 4      1        0        1        0        1        0        0      1
## 5      0        0        1        0        0        0        0     -1
## 6      0        0        0        0        0        0        1     -1
##    V202543 V202544 V202545 V202546 V202547 V202548 V202549 V202550 V202551
## 1      4      4      5      5      5      4      2      3      2
## 2      5     -1     -1      6      5      3      1      2      2
## 3      4      2      4     -1     -1      3      1      5      2
## 4      5     -1     -1     -1     -1      4      1      4      1
## 5     -1     -1     -1     -1     -1      3      1      4      2
## 6     -1     -1     -1     -1     -1      4      1      4      2
##    V202552 V202553 V202554 V202555 V202556 V202557 V202558 V202559 V202560
## 1      4      2      5      2      3      1      4      1      5
## 2      2      2      3      2      3      1      2      2      2
## 3      4      2      5      1      5      2      3      2      5
## 4      4      2      3      1      3      1      4      1      3
## 5      5      1      5      1      5      1      5      1      5
## 6      1      2      5      1      3      2      2      2      5
##    V202561 V202562 V202563 V202564 V202565 V202566 V202567 V202568 V202569
## 1      1      2      2      1      1      1      1      2      2
## 2      2      2      2      1      2      1      2      2      2
## 3      1      2      1      1      1      2      2      1      2
## 4      1      2      2      1      2      2      2      2      2
## 5      2      1      2      1      1      2      1      2      2
## 6      2      2      2      2      2      2      2      2      2
##    V202575 V202576 V202577 V202578 V202579 V202580 V202581 V202582 V202583x
## 1     -1     -1     -1     -1     -1     -1     -1     -1       -1
## 2     -1     -1     -1     -1     -1     -1     -1     -1       -1
## 3     -1     -1     -1     -1     -1     -1     -1     -1       -1
## 4     -1     -1     -1     -1     -1     -1     -1     -1       -1
## 5     -1     -1     -1     -1     -1     -1     -1     -1       -1
## 6     -1     -1     -1     -1     -1     -1     -1     -1       -1
```

```
##    V202584 V202585 V202586x V202587 V202588 V202589 V202590 V202591 V202592
## 1      -1      -1       -1      -1      -1      -1      -1      -1      -1
## 2      -1      -1       -1      -1      -1      -1      -1      -1      -1
## 3      -1      -1       -1      -1      -1      -1      -1      -1      -1
## 4      -1      -1       -1      -1      -1      -1      -1      -1      -1
## 5      -1      -1       -1      -1      -1      -1      -1      -1      -1
## 6      -1      -1       -1      -1      -1      -1      -1      -1      -1
##    V202593 V202594 V202595 V202596x V202597 V202598 V202599 V202600 V202601
## 1      -1      -1      -1       -1      -1      -1      -1      -1      -1
## 2      -1      -1      -1       -1      -1      -1      -1      -1      -1
## 3      -1      -1      -1       -1      -1      -1      -1      -1      -1
## 4      -1      -1      -1       -1      -1      -1      -1      -1      -1
## 5      -1      -1      -1       -1      -1      -1      -1      -1      -1
## 6      -1      -1      -1       -1      -1      -1      -1      -1      -1
##    V202602 V202603x V202604 V202605 V202606x V202607 V202608 V202609x V202610
## 1      -1       -1      -1      -1       -1      -1      -1       -1      -1
## 2      -1       -1      -1      -1       -1      -1      -1       -1      -1
## 3      -1       -1      -1      -1       -1      -1      -1       -1      -1
## 4      -1       -1      -1      -1       -1      -1      -1       -1      -1
## 5      -1       -1      -1      -1       -1      -1      -1       -1      -1
## 6      -1       -1      -1      -1       -1      -1      -1       -1      -1
##    V202611 V202612x V202613 V202614 V202615 V202616x V202617 V202618 V202619
## 1      -1       -1      -1      -1      -1       -1      -1      -1      -1
## 2      -1       -1      -1      -1      -1       -1      -1      -1      -1
## 3      -1       -1      -1      -1      -1       -1      -1      -1      -1
## 4      -1       -1      -1      -1      -1       -1      -1      -1      -1
## 5      -1       -1      -1      -1      -1       -1      -1      -1      -1
## 6      -1       -1      -1      -1      -1       -1      -1      -1      -1
##    V202620x V202621 V202622 V202623 V202624 V202625 V202626 V202627 V202628
## 1       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 2       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 3       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 4       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 5       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 6       -1      -1      -1      -1      -1      -1      -1      -1      -1
##    V202629 V202630 V202631 V202632 V202633 V202634 V202635 V202636a V202636b
## 1      -1      -1      -1      -1      -1      -1      -1       -1      -1
## 2      -1      -1      -1      -1      -1      -1      -1       -1      -1
## 3      -1      -1      -1      -1      -1      -1      -1       -1      -1
## 4      -1      -1      -1      -1      -1      -1      -1       -1      -1
## 5      -1      -1      -1      -1      -1      -1      -1       -1      -1
## 6      -1      -1      -1      -1      -1      -1      -1       -1      -1
##    V202636c V202636d V202636e V202636f V202636g V202637 V202638 V202639 V202640
## 1       -1       -1       -1       -1       -1      -1      -1      -1      -1
## 2       -1       -1       -1       -1       -1      -1      -1      -1      -1
## 3       -1       -1       -1       -1       -1      -1      -1      -1      -1
## 4       -1       -1       -1       -1       -1      -1      -1      -1      -1
## 5       -1       -1       -1       -1       -1      -1      -1      -1      -1
## 6       -1       -1       -1       -1       -1      -1      -1      -1      -1
##    V202641 V202642 V202643 V202644 V202645a V202645b V202645c V202645d V202645e
## 1      -1      -1      -1      -1       -1       -1       -1       -1      -1
## 2      -1      -1      -1      -1       -1       -1       -1       -1      -1
## 3      -1      -1      -1      -1       -1       -1       -1       -1      -1
## 4      -1      -1      -1      -1       -1       -1       -1       -1      -1
```

```
## 5        -1        -1        -1        -1        -1        -1        -1        -1        -1
## 6        -1        -1        -1        -1        -1        -1        -1        -1        -1
##    V202645f V202645g V202645h V202645i V202645j V202645k V202645m V202645n
## 1        -1        -1        -1        -1        -1        -1        -1        -1
## 2        -1        -1        -1        -1        -1        -1        -1        -1
## 3        -1        -1        -1        -1        -1        -1        -1        -1
## 4        -1        -1        -1        -1        -1        -1        -1        -1
## 5        -1        -1        -1        -1        -1        -1        -1        -1
## 6        -1        -1        -1        -1        -1        -1        -1        -1
##    V203000 V203001 V203002 V203003 V203004 V203005 V203006 V203007 V203008
## 1      40      OK       4       3       2      -3      -3      -3      -3
## 2      16      ID       2       4       3      -3      -3      -3      -3
## 3      51      VA       2       3       1      -3      -3      -3      -3
## 4       6      CA      22       4       4      -3      -3      -3      -3
## 5       8      CO       4       4       3      -3      -3      -3      -3
## 6      48      TX       5       3       2      -3      -3      -3      -3
##    V203050 V203051 V203052  V203053 V203054  V203055 V203056 V203057 V203059
## 1       0       0        1 20200827   183013 20200827  202011  109.08       0
## 2       1       0        0 20200923   214931 20201015  183417   98.97       0
## 3       1       0        0 20200818   120230 20200818  131438   71.39       0
## 4       1       0        0 20201012   185453 20201012  200527   68.91       0
## 5       0       0        1 20200819   230503 20200820  000503   59.12       1
## 6       1       0        0 20200905   133618 20200905  145656   79.39       0
##    V203060 V203061 V203075 V203076 V203077  V203078 V203079  V203080 V203081
## 1      -1      40       1       0       0 20201109  201252 20201220  001447
## 2      -1     100       0       0       1 20201109  134057 20201112  111624
## 3      -1      40       1       0       0 20201110  131352 20201110  140713
## 4      -1     100       1       0       0 20201112  165429 20201112  193442
## 5      -1      40       0       0       1 20201109  183935 20201109  211500
## 6      -1      40       1       0       0 20201109  131405 20201109  144639
##    V203082 V203084 V203100 V203101 V203102 V203150 V203151 V203152 V203153
## 1   41.75     100      -2      -2      -2       1       1       2       1
## 2  142.85     100      -2      -2      -2       2       1       2       1
## 3   52.39      40      -2      -2      -2       2       2       2       2
## 4   86.39     100      -2      -2      -2       2       2       2       2
## 5   78.52      40      -2      -2      -2       1       2       2       2
## 6   87.71      40      -2      -2      -2       1       1       2       1
##    V203154 V203155 V203156 V203157 V203158 V203159 V203160 V203161 V203162
## 1       2       1       2       1       1       1       2       1       2
## 2       1       1       2       2       1       2       2       2       4
## 3       1       2       1       1       1       1       2       2       1
## 4       1       2       1       2       1       2       2       2       3
## 5       2       1       2       1       1       2       2       2       2
## 6       1       1       2       2       2       1       1       2       3
##    V203163 V203164 V203165 V203166 V203167 V203168 V203169 V203170 V203171
## 1       1       4       3       3       5       9       2       7       4
## 2       2       1       3       5       1       4       8       3       2
## 3       2       3       4       1       6       8       9       2       3
## 4       1       2       4       9       8       5       1       2       6
## 5       3       4       1       4       3       2       7       5       6
## 6       4       1       2       1       6       8       7       3       2
##    V203172 V203173 V203174 V203175 V203176 V203177 V203178 V203179 V203180
## 1       1       6       8       2       8       6       4       3       1
## 2       6       7       9       1       6       5       7       8       1
```

```
## 3        4       7       5       1       7       3       8       1       4
## 4        3       4       7       2       6       5       1       3       2
## 5        1       9       8       1       8       2       3       1       6
## 6        4       9       5       1       5       7       2       3       1
##    V203181 V203182 V203183 V203184 V203185 V203186 V203187 V203188 V203189
## 1        2       7       5       1       2       1       4       1       3
## 2        2       3       4       2       2       2       3       2       1
## 3        6       5       2       1       1       2       3       4       1
## 4        4       8       7       1       2       2       3       1       4
## 5        7       5       4       2       2       2       3       2       4
## 6        6       8       4       2       2       1       2       3       4
##    V203190 V203191 V203192 V203193 V203194 V203195 V203196 V203197 V203198
## 1        2       2       1       2       1       2       3       5      13
## 2        4       2       2       2       3       2       1      -1      -1
## 3        2       1       2       2       2       3       1       9      13
## 4        2       1       1       1       3       1       2      -1      -1
## 5        1       1       2       2       3       2       1      12       5
## 6        1       2       2       2       1       3       2      -1      -1
##    V203199 V203200 V203201 V203202 V203203 V203204 V203205 V203206 V203207
## 1        4       6       2       7      15      10       3      14       8
## 2       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 3       12       4       6       5      10       8       3      11       1
## 4       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 5        9       4      13       2      10       7       3       1       8
## 6       -1      -1      -1      -1      -1      -1      -1      -1      -1
##    V203208 V203209 V203210 V203211 V203212 V203213 V203214 V203215 V203216
## 1        9      11       1      12       6       5       2      14       7
## 2       -1      -1      -1      -1       1      14       6      13      15
## 3        2       7      15      14       1       7       4       9      14
## 4       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 5       15      11      14       6       9       1      10      13       7
## 6       -1      -1      -1      -1      -1      -1      -1      -1      -1
##    V203217 V203218 V203219 V203220 V203221 V203222 V203223 V203224 V203225
## 1        9      13       8      15       4       1      11       3      10
## 2       12       8      11       3       5      10       2       7       4
## 3       10       5       3       8      15      11      12      13       2
## 4       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 5        8       3       6      11      14      15       4       2       5
## 6       -1      -1      -1      -1      -1      -1      -1      -1      -1
##    V203226 V203227 V203228 V203229 V203230 V203231 V203232 V203233 V203234
## 1       12      -1      -1      -1      -1      -1      -1      -1      -1
## 2        9      -1      -1      -1      -1      -1      -1      -1      -1
## 3        6      16      11       7       6       9       8      12       1
## 4       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 5       12      -1      -1      -1      -1      -1      -1      -1      -1
## 6       -1      -1      -1      -1      -1      -1      -1      -1      -1
##    V203235 V203236 V203237 V203238 V203239 V203240 V203241 V203242 V203243
## 1       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 2       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 3       10       4      13      14       5       2      15       3      16
## 4       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 5       -1      -1      -1      -1      -1      -1      -1      -1      -1
## 6       -1      -1      -1      -1      -1      -1      -1      -1      -1
##    V203244 V203245 V203246 V203247 V203248 V203249 V203250 V203251 V203252
```

```
## 1        -1        -1        -1        -1        -1        -1        -1        -1        -1
## 2        -1        -1        -1        -1        -1        -1        -1        -1        -1
## 3        11         7         6         9         8        12         1        10         4
## 4        -1        -1        -1        -1        -1        -1        -1        -1        -1
## 5        -1        -1        -1        -1        -1        -1        -1        -1        -1
## 6        -1        -1        -1        -1        -1        -1        -1        -1        -1
##    V203253 V203254 V203255 V203256 V203257 V203258 V203259 V203260 V203261
## 1        -1        -1        -1        -1        -1        -1         6         6         2
## 2        -1        -1        -1        -1        -1        -1         3         3         1
## 3        13        14         5         2        15         3         5         5         1
## 4        -1        -1        -1        -1        -1        -1         9         9         2
## 5        -1        -1        -1        -1        -1        -1         6         6         1
## 6        -1        -1        -1        -1        -1        -1         7         7         1
##    V203262 V203263 V203264 V203265 V203266 V203267 V203268 V203269 V203270
## 1         2         1         2         1         2         2         6         3         2
## 2         2         2         2         1         1         2         2         1         6
## 3         1         1         2         1         1         1         5         3         6
## 4         1         2         2         2         1         1         8         3         6
## 5         2         2         1         1         1         2         5         6         1
## 6         2         2         1         2         2         2         6         4         1
##    V203271 V203272 V203273 V203274 V203275 V203276 V203277 V203278 V203279
## 1         6         4         5         1         2         1         4         3         3
## 2         3         2         5         4         3         2         1         4         5
## 3         5         4         1         2         1         2         4         3         2
## 4         4         5         2         1         3         2         4         1         4
## 5         5         2         3         4         3         1         2         4         6
## 6         6         3         5         2         4         2         1         3         6
##    V203280 V203281 V203282 V203283 V203284 V203285 V203286 V203287 V203288
## 1         6         1         4         2         5         1         2         3         2
## 2         4         3         6         1         2         2         1         3         2
## 3         3         5         6         4         1         2         3         1         3
## 4         5         2         3         1         6         1         3         2         3
## 5         3         4         1         5         2         1         3         2         3
## 6         5         2         3         4         1         3         2         1         3
##    V203289 V203290 V203291 V203292 V203293 V203294 V203295 V203296 V203297
## 1         3         1         4         3         6         5         1         2         6
## 2         3         1         1         2         4         3         6         5         8
## 3         1         2         4         5         3         6         1         2         1
## 4         1         2         1         5         3         6         2         4        16
## 5         1         2         5         2         1         6         4         3         5
## 6         2         1         6         5         2         1         3         4        16
##    V203298 V203299 V203300 V203301 V203302 V203303 V203304 V203305 V203306
## 1         5        14        11        13        15         4        10        12         2
## 2        17         6         5         9        12         4        15        11         2
## 3         7         5         9        11         8         2         4        16        12
## 4         2         3         8        10         4        15        17        11         7
## 5        16         7        13        14         3        17        10        12        11
## 6        17        12         3         8         9         5         7         4        13
##    V203307 V203308 V203309 V203310 V203311 V203312 V203313 V203314 V203315
## 1         8        16         9         1        17         7         3        -1        -1
## 2         1        10         7        16        14        13         3        -1        -1
## 3        14        10        15        17        13         3         6        -1        -1
## 4        14         1         9        13        12         5         6        -1        -1
## 5         2         8         9        15         6         1         4        -1        -1
```

```
## 6      14       6      10      11       2       1      15      -1      -1
##    V203316 V203317 V203318 V203319 V203320 V203321 V203322 V203323 V203324
## 1      -1      -1      -1      -1      -1      -1      -1      -1      -1
## 2      -1      -1      -1      -1      -1      -1      -1      -1      -1
## 3      -1      -1      -1      -1      -1      -1      -1      -1      -1
## 4      -1      -1      -1      -1      -1      -1      -1      -1      -1
## 5      -1      -1      -1      -1      -1      -1      -1      -1      -1
## 6      -1      -1      -1      -1      -1      -1      -1      -1      -1
##    V203325 V203326 V203327 V203328 V203329 V203330 V203331 V203332 V203333
## 1      -1       5       2       7      10       8       4       1       6
## 2      -1      11       2       3      10       6      12       5       4
## 3      -1       3       9       2       7       6      12       8       5
## 4      -1       6       9       8       7       3       4       5      10
## 5      -1       4       9       1      10      12       7       5      11
## 6      -1       9       6      12       3       8      10       7       4
##    V203334 V203335 V203336 V203337 V203338 V203339 V203340 V203341 V203342
## 1      11      12       9       3       2       3      12       1       2
## 2       8       1       7       9       1       9       6      11       1
## 3       1      10       4      11       1       6       9      11       1
## 4       1       2      12      11       1       9       3       8       5
## 5       3       6       2       8       2      10      13       7       3
## 6       1       2      11       5       2      11       6       1      10
##    V203343 V203344 V203345 V203346 V203347 V203348 V203349 V203350 V203351
## 1      14       6      10       9       5       8       4       7      13
## 2       7       4      15      13      10       2       3      12       5
## 3       7       8       5       4      14      13      12       3      15
## 4      13       6       4       2      14      15       7       1      12
## 5      15      14       9      11      12       1       2       6       5
## 6      12      15       4       3       9      14       7       8       5
##    V203352 V203353          V203400 V203401 V203402 V203403 V203404 V203405
## 1      15      11 -1. Inapplicable      -1      -1      -1      -1      -1
## 2      14       8 -1. Inapplicable      -1      -1      -1      -1      -1
## 3       2      10 -1. Inapplicable      -1      -1      -1      -1      -1
## 4      10      11 -1. Inapplicable      -1      -1      -1      -1      -1
## 5       8       4 -1. Inapplicable      -1      -1      -1      -1      -1
## 6      13       2 -1. Inapplicable      -1      -1      -1      -1      -1
##    V203406          V203410 V203411 V203412 V203413 V203414 V203415 V203416
## 1      -1 -1. Inapplicable      -1      -1      -1      -1      -1      -1
## 2      -1 -1. Inapplicable      -1      -1      -1      -1      -1      -1
## 3      -1 -1. Inapplicable      -1      -1      -1      -1      -1      -1
## 4      -1 -1. Inapplicable      -1      -1      -1      -1      -1      -1
## 5      -1 -1. Inapplicable      -1      -1      -1      -1      -1      -1
## 6      -1 -1. Inapplicable      -1      -1      -1      -1      -1      -1
##    V203500          V203501 V203502 V203503          V203504 V203505 V203506
## 1      21 -1. Inapplicable      -1      -1 -1. Inapplicable      -1      -1
## 2      21 -1. Inapplicable      -1      -1 -1. Inapplicable      -1      -1
## 3      12 -1. Inapplicable      -1      -1 -1. Inapplicable      -1      -1
## 4      81 Dianne Feinstein       2       1 -1. Inapplicable       2       1
## 5      21 -1. Inapplicable      -1      -1 -1. Inapplicable      -1      -1
## 6      21 -1. Inapplicable      -1      -1 -1. Inapplicable      -1      -1
##                     V203508 V203509             V203510 V203511
## 1         Abby Broyles       2 James M. 'Jim' Inhofe       1
## 2        Paulette Jordan       2  James E. 'Jim' Risch       1
## 3     Mark Robert Warner       1 Daniel MacArthur Gade       1
```

```
## 4          -1. Inapplicable      -1      -1. Inapplicable        -1
## 5     John W. Hickenlooper        1   Cory Scott Gardner         1
## 6 Mary Jennings 'MJ' Hegar        2          John Cornyn         1
##           V203512 V203513 V203514 V203515              V203516 V203517
## 1 -1. Inapplicable      -1      -1      29             Mary Brannon       2
## 2 -1. Inapplicable      -1      -1      29      Carlton Aaron Swisher       1
## 3 -1. Inapplicable      -1      -1      19            Elaine G. Luria       2
## 4 -1. Inapplicable      -1      -1      21               Phil Arballo       1
## 5 -1. Inapplicable      -1      -1      29 Isaac Ian 'Ike' McCorkle       1
## 6 -1. Inapplicable      -1      -1      29            Carolyn Salter       2
##                       V203518 V203519       V203520 V203521 V203522 V203523
## 1     Thomas Jeffery 'Tom' Cole        1 -1. Inapplicable      -1      -1      82
## 2 Michael Keith 'Mike' Simpson        1 -1. Inapplicable      -1      -1      -1
## 3         Scott William Taylor        1 -1. Inapplicable      -1      -1      81
## 4           Devin Gerald Nunes        1 -1. Inapplicable      -1      -1      81
## 5        Kenneth R. 'Ken' Buck        1 -1. Inapplicable      -1      -1      81
## 6                 Lance Gooden        1 -1. Inapplicable      -1      -1      82
##           V203524 V203525       V203526 V203527
## 1 -1. Inapplicable      -1 -1. Inapplicable      -1
## 2 -1. Inapplicable      -1 -1. Inapplicable      -1
## 3 -1. Inapplicable      -1 -1. Inapplicable      -1
## 4 -1. Inapplicable      -1 -1. Inapplicable      -1
## 5 -1. Inapplicable      -1 -1. Inapplicable      -1
## 6 -1. Inapplicable      -1 -1. Inapplicable      -1
```

Table 1: Data Columns Identification

Code	Name
V200001	Survey id
V202120a	Difficulty in registering to vote
V202119	Difficulty to vote
V201228	Party identification
V201229	Strong party identification
V201230	Leaning party identification
V202066	Whether or not they voted
V202051	Registered to vote

```
##                 percentage_partisan
## percentage_voters  Democrats Indepedents Republicans
##   Eligible Voters 0.48293963  0.08923885  0.42782152
```

Table 2: Percentage of Voter by Partisan in 2020

	Democrats	Indepedents	Republicans
Eligible Voters	0.48	0.09	0.43

Table 3: Percentage of Democratics Voter Experiencing Difficulties

Voting Difficulty Scale	Total	Percent
1	2554	87.92
2	232	7.99

27

Table 5: Percentage of Republicans (Left) and Democrats (Right) Voter Experiencing Difficulties

Voting Difficulty Scale	Total	Percent	Voting Difficulty Scale	Total	Percent
1	2335	90.64	1	2554	87.92
2	146	5.67	2	232	7.99
3	53	2.06	3	86	2.96
4	24	0.93	4	20	0.69
5	18	0.70	5	13	0.45

Voting Difficulty Scale	Total	Percent
3	86	2.96
4	20	0.69
5	13	0.45

Table 4: Percentage of Republicans Voter Experiencing Difficulties

Voting Difficulty Scale	Total	Percent
1	2335	90.64
2	146	5.67
3	53	2.06
4	24	0.93
5	18	0.70

```
## difficult_to_vote
## Min.   :1.000
## 1st Qu.:1.000
## Median :1.000
## Mean   :1.178
## 3rd Qu.:1.000
## Max.   :5.000
## NA's   :39

## difficult_to_vote
## Min.   :1.000
## 1st Qu.:1.000
## Median :1.000
## Mean   :1.154
## 3rd Qu.:1.000
## Max.   :5.000
## NA's   :32

##
##  Wilcoxon rank sum test with continuity correction
##
## data:  democrats_voters$difficult_to_vote and republicans_voters$difficult_to_vote
## W = 3840387, p-value = 0.000855
## alternative hypothesis: true location shift is greater than 0
```

1 Introduction

According to the U.S. Constitution, voting is a right. However, there have been recent allegations of voter irregularities and suppression during the 2020 presidential elections that made voting difficult for some Americans. The BBC report done in Georgia in October 2020[1], highlighted that restrictive voting laws and limited access to polling stations have led to some voters experiencing difficulty such as long wait times. During the 2020 presidential election, there was a historic number of popular votes (the total number of votes by citizens) with 155 million Americans or 66.8% of the citizens 18 years and older voting\footnote{Bureau, U. S. C. (2021, October 8). 2020 presidential election voting and registration tables now available. Census.gov. Retrieved February 26, 2022, from https://www.census.gov/newsroom/press-releases/2021/2020-presidential-election-voting-and-registration-tables-now-available.html#:~:text=APRIL%2029%2C%202021%20%E2%80%94%20The%202020,by%20the%20U.S.%20Census%20Bureau}. Of this 66.8%, Biden received 81.2 million votes while Trump received 74.2 million votes. In spite of the historical voting turnout, still 33.2% of the voting population did not vote.

For that reason it is worthwhile to investigate the question:

> *Did Democratic voters or Republican voters experience more difficulty in voting in the 2020 election?*

An answer to this question could provide insights into whether or not difficulties in voting are partisan or bipartisan issues. It could also help shed some light on what is preventing voters from voting. Addressing these issues could potentially increase voter turnout in future elections.

2 Conceptualization and Operationalization

In order to tackle the research question, we first need to clarify a few questions: 1) Who or what is a voter? 2) Who is a "Republican" and who is a "Democrat"? 3) What does it mean to experience difficulty in voting?

In this study, we conceptualize voters as American citizens who are eligible to vote or have voted in the 2020 election. Second, we define Republicans as individuals who identify themselves as strong, weak or leaning republicans, likewise with Democrats. Finally, we define difficulty in voting as any challenge that hinders a voter ability to vote for the 2020 presidential election.

Our analysis leverage data from the 2020 American National Election Studies (ANES)[2]. We planned to use some of the observational data collected as follows: * First, to create a measurement for voters, we will use the data pertaining to individuals who have registered to vote and post election data on those that voted. We would merge these two columns with voters who have experienced difficulties in registering to vote. Treating the data this way, we would capture those that registered to vote or those that have experienced difficulties in voting.

- Second, to classify partisanship and based on a study done by Petrocik 2009, we will collect data on those who identified themselves as having strong partisanship, weak partisanship, or leaning toward a particular party. Here we will be grouping weak partisanship and those who lean toward a particular party in the same group. This is the best method for treating this part of the data because learners are partisans. Characterizing them as independents underestimates the partisanship of Americans and leads to inaccurate estimates of party effects and the responsiveness of the electorate to short-term electoral forces (Petrocik, 2009).

- Finally, to identify those who experience difficulties in voting, we will collect data based on a survey report of individuals experiencing difficulties to vote on a Likert scale from 1 to 5 with 1 being not difficult at all and 5 being extremely difficult. This information would enable us to measure the level of difficulties among individuals of each party.

---

[1] Levinson-King, R. (2020, October 20). US election 2020: Why it can be hard to vote in the US. BBC News. Retrieved February 26, 2022, from https://www.bbc.com/news/election-us-2020-54240651

[2] Home - anes: American National Election Studies. ANES | American National Election Studies. (2022, February 10). Retrieved February 26, 2022, from https://electionstudies.org/

Data wrangling First, we isolated the following columns from the main dataset and renamed them as seen in Table @ref(tab:data columns identification)

Second, we filtered out any data points that had negative values and labeled them as NA because according to the ANES dataset dictionary, negative integers mean that there was either no answer for this individual or the surveyor had experienced some form of technical difficulties when interacting with this individual.

According to our conceptualization of voters, we identified three columns that contain information on voters. These columns are people who experienced difficulty in voting, people who registered to vote, and people who have voted. Using these columns, we created the following conditional statements: Voters are people who have voted or have not voted and have registered or have not registered but have experience difficulty in registering. We stored this column as a Boolean statement named isVoter.

3 Hypothesis testing

To beging hypothesis testing, we formualted a null hypothesis and an alternate hypothesis. We decided to go with the alternative hypothesis that Democratic voters experience more difficulty than Republican voters based on our analysis of the data as outlined in the following two tables @ref(tab:summary-table).

Null Hypothesis, (H_o): The probability that a Republican voter's level of difficulty is higher than that of a Democratic voter is the same as the probability that a Democratic voter's level of difficulty is higher than that of a Republican voter. $P(R\ level\ of\ difficulty\ >\ D\ level\ of\ difficulty) = P(R\ level\ of\ difficulty\ <\ D\ level\ of\ difficulty)$

Alternative Hypothesis, (H_a): The probability that a Democratic voter's level of difficulty is higher than that of a Republican voter.

$P(R\ level\ of\ difficulty < D\ level\ of\ difficulty)$