Data 607 - Project 2

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The goal of this assignment is to give you practice in preparing different datasets for downstream analysis work. Your task is to: (1) Choose any three of the "wide" datasets identified in the Week 5 Discussion items. (You may use your own dataset; please don't use my Sample Post dataset, since that was used in your Week 6 assignment!) For each of the three chosen datasets: • Create a .CSV file (or optionally, a MySQL database!) that includes all of the information included in the dataset. You're encouraged to use a "wide" structure similar to how the information appears in the discussion item, so that you can practice tidying and transformations as described below. • Read the information from your .CSV file into R, and use tidyr and dplyr as needed to tidy and transform your data. [Most of your grade will be based on this step!] • Perform the analysis requested in the discussion item. • Your code should be in an R Markdown file, posted to rpubs.com, and should include narrative descriptions of your data cleanup work, analysis, and conclusions.

DATASET 1

Loading Data from Github

This data was found on Kaggle.com

```
candy_df <- read.csv('https://raw.githubusercontent.com/Meccamarshall/Data607/main/Project%202/Candydata
head(candy_df)
```

```
##   Internal.ID Q1..GOING.OUT. Q2..GENDER Q3..AGE Q4..COUNTRY
## 1    90258773
## 2    90272821             No       Male      44        USA
## 3    90272829                      Male      49         USA
## 4    90272840             No       Male      40          us
## 5    90272841             No       Male      23         usa
## 6    90272852             No       Male
##   Q5..STATE..PROVINCE..COUNTY..ETC Q6...100.Grand.Bar
## 1
## 2                               NM               MEH
## 3                         Virginia
## 4                               or               MEH
## 5                         exton pa               JOY
## 6                                                JOY
##   Q6...Anonymous.brown.globs.that.come.in.black.and.orange.wrappers..a.k.a..Mary.Janes.
## 1
## 2                                                                             DESPAIR
## 3
## 4                                                                             DESPAIR
## 5                                                                             DESPAIR
## 6                                                                             DESPAIR
##   Q6...Any.full.sized.candy.bar Q6...Black.Jacks Q6...Bonkers..the.candy.
## 1
```

```
## 2                           JOY              MEH                   DESPAIR
## 3
## 4                           JOY              MEH                       MEH
## 5                           JOY          DESPAIR                       MEH
## 6                           JOY
##   Q6...Bonkers..the.board.game. Q6...Bottle.Caps Q6...Box.o.Raisins
## 1
## 2                      DESPAIR          DESPAIR            DESPAIR
## 3
## 4                      DESPAIR              MEH            DESPAIR
## 5                      DESPAIR              MEH            DESPAIR
## 6                                           MEH                MEH
##   Q6...Broken.glow.stick Q6...Butterfinger Q6...Cadbury.Creme.Eggs
## 1
## 2                DESPAIR           DESPAIR                    MEH
## 3
## 4                DESPAIR              MEH                     MEH
## 5                DESPAIR              MEH                     MEH
## 6                DESPAIR              JOY                 DESPAIR
##   Q6...Candy.Corn
## 1
## 2             MEH
## 3
## 4         DESPAIR
## 5         DESPAIR
## 6             MEH
##   Q6...Candy.that.is.clearly.just.the.stuff.given.out.for.free.at.restaurants
## 1
## 2                                                                    DESPAIR
## 3
## 4                                                                    DESPAIR
## 5                                                                    DESPAIR
## 6                                                                        MEH
##   Q6...Caramellos Q6...Cash..or.other.forms.of.legal.tender Q6...Chardonnay
## 1
## 2             MEH                                      JOY             MEH
## 3
## 4             MEH                                      JOY             MEH
## 5             JOY                                     MEH              JOY
## 6             JOY                                      JOY             JOY
##   Q6...Chick.o.Sticks..we.don.t.know.what.that.is. Q6...Chiclets
## 1
## 2                                       DESPAIR       DESPAIR
## 3
## 4                                           JOY           MEH
## 5                                       DESPAIR       DESPAIR
## 6                                           MEH           MEH
##   Q6...Coffee.Crisp Q6...Creepy.Religious.comics.Chick.Tracts
## 1
## 2           DESPAIR                                  DESPAIR
## 3
## 4           DESPAIR                                  DESPAIR
## 5              MEH                                   DESPAIR
## 6              JOY                                   DESPAIR
```

```
##   Q6...Dental.paraphenalia Q6...Dots Q6...Dove.Bars Q6...Fuzzy.Peaches
## 1
## 2                  DESPAIR       MEH            JOY            DESPAIR
## 3
## 4                  DESPAIR       JOY            JOY                MEH
## 5                  DESPAIR       MEH            JOY            DESPAIR
## 6                      MEH       MEH            JOY
##   Q6...Generic.Brand.Acetaminophen Q6...Glow.sticks Q6...Goo.Goo.Clusters
## 1
## 2                          DESPAIR          DESPAIR               DESPAIR
## 3
## 4                             MEH              JOY                   JOY
## 5                          DESPAIR          DESPAIR                  MEH
## 6                          DESPAIR              MEH                   JOY
##   Q6...Good.N..Plenty Q6...Gum.from.baseball.cards Q6...Gummy.Bears.straight.up
## 1
## 2                 MEH                       DESPAIR                          MEH
## 3
## 4                 MEH                       DESPAIR                          JOY
## 5                 MEH                       DESPAIR                          JOY
## 6                 MEH                       DESPAIR                          MEH
##   Q6...Hard.Candy Q6...Healthy.Fruit Q6...Heath.Bar
## 1
## 2             MEH            DESPAIR            MEH
## 3
## 4             MEH                MEH        DESPAIR
## 5             MEH            DESPAIR        DESPAIR
## 6             MEH                MEH            JOY
##   Q6...Hershey.s.Dark.Chocolate Q6...Hershey.s.Milk.Chocolate
## 1
## 2                           JOY                           JOY
## 3
## 4                           MEH                           MEH
## 5                           JOY                           MEH
## 6                           JOY                           MEH
##   Q6...Hershey.s.Kisses Q6...Hugs..actual.physical.hugs.
## 1
## 2                  MEH                          DESPAIR
## 3
## 4                  MEH                              MEH
## 5                  MEH                          DESPAIR
## 6                  MEH                              MEH
##   Q6...Jolly.Rancher..bad.flavor. Q6...Jolly.Ranchers..good.flavor.
## 1
## 2                         DESPAIR                               MEH
## 3
## 4                            MEH                               MEH
## 5                            MEH                               JOY
## 6                            MEH                               MEH
##   Q6...JoyJoy..Mit.Iodine.. Q6...Junior.Mints Q6...Senior.Mints
## 1
## 2                  DESPAIR           DESPAIR           DESPAIR
## 3
## 4                  DESPAIR           DESPAIR           DESPAIR
```

```
## 5                       MEH               JOY           DESPAIR
## 6                                         JOY
##   Q6...Kale.smoothie Q6...Kinder.Happy.Hippo Q6...Kit.Kat Q6...LaffyTaffy
## 1
## 2            DESPAIR                 DESPAIR          JOY         DESPAIR
## 3
## 4            DESPAIR                    MEH           MEH             JOY
## 5            DESPAIR                    JOY           JOY             JOY
## 6            DESPAIR                                  JOY             MEH
##   Q6...LemonHeads Q6...Licorice..not.black. Q6...Licorice..yes.black.
## 1
## 2             MEH                      MEH                       JOY
## 3
## 4             JOY                      MEH                       JOY
## 5             JOY                      MEH                    DESPAIR
## 6             MEH                      MEH                       MEH
##   Q6...Lindt.Truffle Q6...Lollipops Q6...Mars Q6...Maynards Q6...Mike.and.Ike
## 1
## 2                MEH        DESPAIR   DESPAIR       DESPAIR               MEH
## 3
## 4                JOY        DESPAIR       JOY           MEH               MEH
## 5                JOY            MEH       MEH       DESPAIR               MEH
## 6                JOY            MEH       JOY                             JOY
##   Q6...Milk.Duds Q6...Milky.Way Q6...Regular.M.Ms Q6...Peanut.M.M.s
## 1
## 2            MEH            JOY               JOY              MEH
## 3
## 4       DESPAIR             JOY               MEH              JOY
## 5            MEH            JOY               JOY              JOY
## 6            JOY            JOY               JOY              JOY
##   Q6...Blue.M.M.s Q6...Red.M.M.s Q6...Green.Party.M.M.s Q6...Independent.M.M.s
## 1
## 2             JOY            JOY                   JOY                   JOY
## 3
## 4             MEH            MEH                   MEH                   MEH
## 5             JOY            JOY                   JOY                   JOY
## 6             JOY            JOY
##   Q6...Abstained.from.M.M.ing. Q6...Minibags.of.chips Q6...Mint.Kisses
## 1
## 2                      DESPAIR               DESPAIR             MEH
## 3
## 4                         MEH               DESPAIR          DESPAIR
## 5                         MEH               DESPAIR             JOY
## 6                                               JOY             JOY
##   Q6...Mint.Juleps Q6...Mr..Goodbar Q6...Necco.Wafers Q6...Nerds
## 1
## 2          DESPAIR          DESPAIR           DESPAIR    DESPAIR
## 3
## 4             MEH              MEH           DESPAIR        MEH
## 5             JOY              MEH           DESPAIR        JOY
## 6             JOY              JOY               MEH        JOY
##   Q6...Nestle.Crunch Q6...Now.n.Laters Q6...Peeps Q6...Pencils Q6...Pixy.Stix
## 1
## 2               JOY           DESPAIR    DESPAIR      DESPAIR        DESPAIR
```

```
## 3
## 4                MEH               MEH    DESPAIR      DESPAIR        DESPAIR
## 5                JOY               JOY        MEH      DESPAIR            JOY
## 6                MEH               MEH    DESPAIR      DESPAIR            MEH
##   Q6...Real.Housewives.of.Orange.County.Season.9.Blue.Ray
## 1
## 2                                                DESPAIR
## 3
## 4                                                DESPAIR
## 5                                                DESPAIR
## 6                                                DESPAIR
##   Q6...Reese.s.Peanut.Butter.Cups Q6...Reese.s.Pieces Q6...Reggie.Jackson.Bar
## 1
## 2                             JOY                JOY                 DESPAIR
## 3
## 4                             JOY                MEH                    MEH
## 5                             JOY                JOY                    MEH
## 6                             JOY                JOY                 DESPAIR
##   Q6...Rolos Q6...Sandwich.sized.bags.filled.with.BooBerry.Crunch Q6...Skittles
## 1
## 2        JOY                                              DESPAIR       DESPAIR
## 3
## 4        MEH                                              DESPAIR       DESPAIR
## 5        JOY                                                                JOY
## 6        JOY                                              DESPAIR           JOY
##   Q6...Smarties..American. Q6...Smarties..Commonwealth. Q6...Snickers
## 1
## 2                 DESPAIR                      DESPAIR           MEH
## 3
## 4                 DESPAIR                          MEH           JOY
## 5                     JOY                      DESPAIR
## 6                     JOY                          JOY           JOY
##   Q6...Sourpatch.Kids..i.e..abominations.of.nature. Q6...Spotted.Dick
## 1
## 2                                          DESPAIR           DESPAIR
## 3
## 4                                             MEH           DESPAIR
## 5                                             MEH           DESPAIR
## 6                                          DESPAIR           DESPAIR
##   Q6...Starburst Q6...Sweet.Tarts Q6...Swedish.Fish
## 1
## 2            MEH          DESPAIR               MEH
## 3
## 4            MEH              MEH               JOY
## 5            JOY              JOY               MEH
## 6            MEH              MEH               MEH
##   Q6...Sweetums..a.friend.to.diabetes. Q6...Take.5 Q6...Tic.Tacs
## 1
## 2                              DESPAIR     DESPAIR       DESPAIR
## 3
## 4                                 MEH         JOY           MEH
## 5                              DESPAIR         MEH       DESPAIR
## 6                                                           MEH
##   Q6...Those.odd.marshmallow.circus.peanut.things Q6...Three.Musketeers
```

```
## 1
## 2                                        DESPAIR                   JOY
## 3
## 4                                        DESPAIR               DESPAIR
## 5                                        DESPAIR                   JOY
## 6                                        DESPAIR                   JOY
##   Q6...Tolberone.something.or.other Q6...Trail.Mix Q6...Twix
## 1
## 2                              JOY        DESPAIR       JOY
## 3
## 4                              JOY            MEH       JOY
## 5                              JOY        DESPAIR       JOY
## 6                              JOY            MEH       JOY
##   Q6...Vials.of.pure.high.fructose.corn.syrup..for.main.lining.into.your.vein
## 1
## 2                                                                  DESPAIR
## 3
## 4                                                                  DESPAIR
## 5                                                                      MEH
## 6                                                                  DESPAIR
##   Q6...Vicodin Q6...Whatchamacallit.Bars Q6...White.Bread
## 1
## 2     DESPAIR                   DESPAIR          DESPAIR
## 3
## 4         JOY                       JOY          DESPAIR
## 5         JOY                       JOY          DESPAIR
## 6     DESPAIR                       JOY          DESPAIR
##   Q6...Whole.Wheat.anything Q6...York.Peppermint.Patties
## 1
## 2                  DESPAIR                      DESPAIR
## 3
## 4                  DESPAIR                      DESPAIR
## 5                  DESPAIR                          JOY
## 6                  DESPAIR                          JOY
##                                                                  Q7..JOY.OTHER
## 1
## 2                                                                       Mounds
## 3
## 4 Reese's crispy crunchy bars, 5th avenue bars, ferrero rocher, dries fruit other than raisins
## 5
## 6
##   Q8..DESPAIR.OTHER                                      Q9..OTHER.COMMENTS
## 1
## 2                  Bottom line is Twix is really the only candy worth eating.
## 3
## 4                                                 Raisins can go to hell
## 5
## 6
##       Q10..DRESS X Q11..DAY Q12..MEDIA..Daily.Dish. Q12..MEDIA..Science.
## 1                                                NA                   NA
## 2 White and gold     Sunday                      NA                    1
## 3                                                NA                   NA
## 4 White and gold     Sunday                      NA                    1
## 5 White and gold     Friday                      NA                    1
```

```
## 6                                                 NA                    1
##   Q12..MEDIA..ESPN. Q12..MEDIA..Yahoo. Click.Coordinates..x..y.
## 1                NA                 NA
## 2                NA                 NA                 (84, 25)
## 3                NA                 NA
## 4                NA                 NA                 (75, 23)
## 5                NA                 NA                 (70, 10)
## 6                NA                 NA                 (75, 23)
```

Cleaning the Data

```
candy1 <- candy_df %>% select(starts_with('Q2'), starts_with('Q6')) %>%
  rename(gender = Q2..GENDER) %>%
  gather('candy_name','preference',2:50) %>%
  mutate(candy_name= str_replace(candy_name, 'Q6\\.{3}(.+)','\\1'),
         preference = str_trim(preference, side = 'both')) %>%
  filter(!preference == '' & (gender == 'Male' | gender == 'Female')) %>%
  group_by(gender,candy_name,preference) %>%
  tally() %>%
  spread(preference,n)
candy1
```

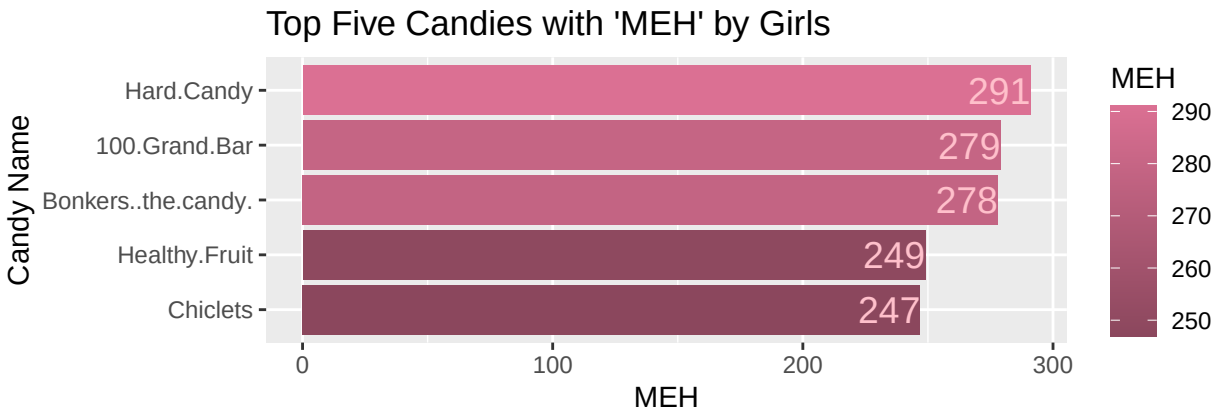
```
## # A tibble: 98 x 5
## # Groups:   gender, candy_name [98]
##    gender candy_name                                          DESPAIR   JOY   MEH
##    <chr>  <chr>                                                 <int> <int> <int>
##  1 Female 100.Grand.Bar                                            39   265   279
##  2 Female Anonymous.brown.globs.that.come.in.black.and.oran~      369    61   161
##  3 Female Any.full.sized.candy.bar                                  5   542    66
##  4 Female Black.Jacks                                             294    20   186
##  5 Female Bonkers..the.board.game.                                164    72   241
##  6 Female Bonkers..the.candy.                                     174    34   278
##  7 Female Bottle.Caps                                             207   147   218
##  8 Female Box.o.Raisins                                           416    43   153
##  9 Female Broken.glow.stick                                       554     5    46
## 10 Female Butterfinger                                             48   401   162
## # i 88 more rows
```

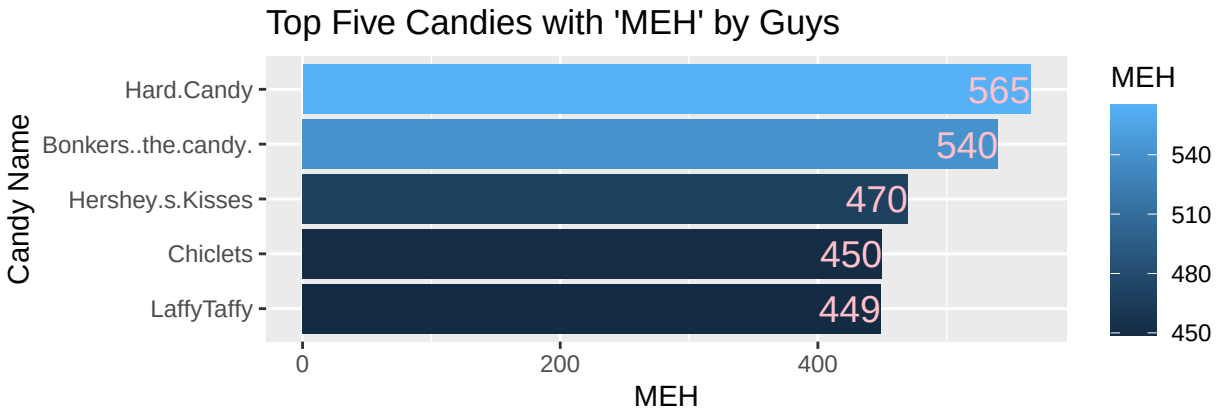
Creating Visuals and Analyzing Data

Viewing the top five candies that are "meh" to both guys and girls.

```
plot1=ggplot(arrange(filter(candy1, gender == 'Female'),desc(MEH))[1:5,], aes(x=reorder(candy_name, MEH
  geom_bar(stat = 'identity')+
  coord_flip()+
  geom_text(aes(label=MEH),vjust=0.5, hjust=1.00, position = position_dodge(width = 1), color="pink", si
  xlab("Candy Name")+ggtitle("Top Five Candies with 'MEH' by Girls")+
  scale_fill_gradient(low = 'palevioletred4', high = 'palevioletred')

plot2=ggplot(arrange(filter(candy1, gender == 'Male'),desc(MEH))[1:5,], aes(x=reorder(candy_name, MEH),
  geom_bar(stat = 'identity')+
  coord_flip()+
  geom_text(aes(label=MEH),vjust=0.5, hjust=1.00, position = position_dodge(width = 1), color="pink",siz
  xlab("Candy Name")+ggtitle("Top Five Candies with 'MEH' by Guys")
ggarrange(plot1,plot2,nrow=2)
```





DATASET 2

Importing Data from Github

```
Testscores_df <- read_csv('https://raw.githubusercontent.com/Meccamarshall/Data607/main/Project%202/tes
                          show_col_types = FALSE)
```

Creating a dataframe

```
Testscores_df <- data.frame(Testscores_df)
Testscores_df %>%
head(10) %>%
  kable() %>%
  kable_styling(bootstrap_options = "striped", font_size = 12, fixed_thead = T) %>%  scroll_box(height =
```

Tidying the Student Test Score Results data

```
colnames(Testscores_df) <- c("StudentID","Gender", "EthnicGroup", "ParentEduc", "LunchType", "TestPrep"
colnames(Testscores_df) <- c("StudentID","Gender", "EthnicGroup", "ParentEduc", "LunchType", "TestPrep"
Testscores_df%>%
head(10) %>%
  kable() %>%
  kable_styling(bootstrap_options = "striped", font_size = 12, fixed_thead = T) %>%  scroll_box(height =
```

StudentID	Gender	EthnicGroup	ParentEduc	LunchType	TestPrep	MathScore	Readi
0	female	group B	bachelor's degree	standard	none	72	
1	female	group C	some college	standard	completed	69	
2	female	group B	master's degree	standard	none	90	
3	male	group A	associate's degree	free/reduced	none	47	
4	male	group C	some college	standard	none	76	
5	female	group B	associate's degree	standard	none	71	
6	female	group B	some college	standard	completed	88	
7	male	group B	some college	free/reduced	none	40	
8	male	group D	high school	free/reduced	completed	64	
9	female	group B	high school	free/reduced	none	38	

StudentID	Gender	EthnicGroup	ParentEduc	LunchType	TestPrep	MathScore	Readi
0	female	group B	bachelor's degree	standard	none	72	
1	female	group C	some college	standard	completed	69	
2	female	group B	master's degree	standard	none	90	
3	male	group A	associate's degree	free/reduced	none	47	
4	male	group C	some college	standard	none	76	
5	female	group B	associate's degree	standard	none	71	
6	female	group B	some college	standard	completed	88	
7	male	group B	some college	free/reduced	none	40	
8	male	group D	high school	free/reduced	completed	64	
9	female	group B	high school	free/reduced	none	38	

DATASET 3 - Subway Riders Annually

Load data from github

```
url <- 'https://raw.githubusercontent.com/Meccamarshall/Data607/main/Project%202/2022%20Subway%20Tables_

MTA_df <- read.csv(file = url)

na.omit(MTA_df)
```

```
##                Station..alphabetical.by.borough.         X2017         X2018
## 1                                      The Bronx      The Bronx     The Bronx
## 2                          138 St-Grand Concourse      1,036,746       944,598
## 3                        149 St-Grand    Concourse      4,255,015     3,972,763
## 4                         161 St-Yankee    Stadium      8,596,506     8,392,290
## 5                                         167 St      2,954,228     2,933,140
## 6                                         167 St      3,293,451     2,022,919
## 7                                         170 St      2,785,331     2,562,443
## 8                                         170 St      2,270,027     2,454,974
## 9                                         174 St      2,334,317     2,056,692
## 10                                   174-175 Sts      1,735,321     1,005,075
## 11                                        176 St      1,943,854     1,803,691
## 12                                   182-183 Sts      1,577,144     1,502,814
## 13                                        183 St      2,001,410     1,831,457
## 14                                        219 St      1,044,200     1,026,894
## 15                                        225 St      1,323,910     1,224,369
## 16                                        231 St      3,013,031     3,133,231
## 17                                        233 St      1,565,455     1,496,673
## 18                                        238 St      1,335,877       960,970
## 19                                   3 Av-138 St      2,515,479     2,451,972
## 20                                   3 Av-149 St      7,458,222     6,784,053
## 21                                   Allerton Av      1,678,247     1,603,702
## 22                                 Baychester Av      1,054,373     1,006,343
## 23                           Bedford Park    Blvd      2,220,298     1,984,267
## 24          Bedford Park    Blvd-Lehman College      1,716,853     1,575,555
## 25                            Bronx Park    East        799,927       752,916
## 26                                     Brook Av      1,938,814     1,895,570
## 27                                     Buhre Av      1,094,122     1,110,307
## 28                                     Burke Av      1,064,119       997,617
## 29                                  Burnside Av      3,442,348     3,198,218
## 30                            Castle Hill    Av      2,071,819     2,000,084
## 31                                   Cypress Av      1,230,910     1,113,667
## 32                 East 143    St-St Mary's St        285,667       301,240
## 33                                  East 149 St      1,531,045     1,508,022
## 34                                  East 180 St      2,589,024     2,249,646
## 35                       Eastchester-Dyre    Av      1,261,041     1,259,009
## 36                                     Elder Av      2,107,677     2,000,985
## 37                                   Fordham Rd      3,656,367     3,321,215
## 38                                   Fordham Rd      3,843,008     3,596,416
## 39                                   Freeman St      1,556,949     1,354,453
## 40                                  Gun Hill Rd      2,429,804     2,197,147
## 41                                  Gun Hill Rd      1,555,601     1,521,987
## 42                            Hunts Point    Av      3,243,725     3,216,569
## 43                                 Intervale Av      1,045,483       943,016
```

```
## 44                                Jackson Av     1,794,781     1,597,307
## 45                      Kingsbridge    Rd     3,024,692     2,783,082
## 46                      Kingsbridge    Rd     2,589,970     2,475,107
## 47                            Longwood Av     1,084,049     1,040,934
## 48                        Middletown Rd       609,861       595,044
## 49                          Morris Park       685,577       668,423
## 50                Morrison    Av-Soundview     2,125,767     1,988,053
## 51                          Mosholu Pkwy     2,695,090     2,531,607
## 52                            Mt Eden Av     1,708,790     1,652,407
## 53                             Nereid Av     1,085,289     1,034,335
## 54                    Norwood-205    St     2,723,506     2,611,874
## 55                          Parkchester     5,071,740     4,836,244
## 56                  Pelham Bay    Park     2,207,720     2,146,552
## 57                          Pelham Pkwy     2,849,210     2,639,586
## 58                          Pelham Pkwy       869,177       844,884
## 59                          Prospect Av     2,413,743     2,142,697
## 60                           Simpson St     2,965,807     2,585,974
## 61                    St Lawrence    Av     1,334,387     1,273,609
## 62                          Tremont Av     3,154,608     3,246,064
## 63           Van Cortlandt    Park-242 St     2,249,314     2,333,136
## 64                  Wakefield-241    St     1,578,125     1,484,478
## 65           West Farms    Sq-East Tremont Av     2,388,659     2,094,751
## 66          Westchester    Sq-East Tremont Av     1,917,007     1,817,925
## 67                          Whitlock Av       595,385       592,103
## 68                             Woodlawn     2,242,100     2,160,859
## 69                           Zerega Av       799,739       792,928
## 70                            Brooklyn      Brooklyn      Brooklyn
## 71                  15    St-Prospect Park     1,917,454     1,867,619
## 72                                18 Av     1,948,610     1,909,554
## 73                                18 Av     1,281,041     1,163,390
## 74                                18 Av       992,834       981,261
## 75                                20 Av     1,579,804     1,534,396
## 76                                20 Av       664,120     1,075,077
## 77                                25 Av     1,789,365     1,571,134
## 78                                25 St     1,373,521     1,149,469
## 79                                36 St     4,543,305     4,293,364
## 80                         4 Av  /9    St     4,323,467     3,906,028
## 81                                45 St     2,390,684     2,251,921
## 82                                50 St       986,060       965,643
## 83                                53 St     1,187,907     2,378,056
## 84                                55 St       632,198       650,590
## 85                                59 St     5,326,789     3,998,207
## 86                                 7 Av     3,236,816     3,126,475
## 87                                 7 Av     3,623,053     3,572,223
## 88                                71 St     1,854,361     1,746,966
## 89                                77 St     1,980,011     1,676,402
## 90                                79 St     2,032,937     1,901,043
## 91                                 8 Av     4,088,721     3,700,661
## 92                                86 St       494,456       609,555
## 93                                86 St     3,516,712     3,470,741
## 94                                 9 Av     1,737,192     1,667,200
## 95                           Alabama Av       755,935       652,030
## 96                          Atlantic Av       557,103       559,411
## 97               Atlantic    Av-Barclays Ctr    13,571,093    13,807,282
```

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## 98                                  Avenue H     1,006,747     1,034,018
## 99                                  Avenue I       326,469       326,005
## 100                                 Avenue J     1,912,497     1,878,547
## 101                                 Avenue M     1,828,941     1,808,189
## 102                                 Avenue N       643,200       612,201
## 103                                 Avenue P       534,727       509,036
## 104                                 Avenue U       373,322       310,821
## 105                                 Avenue U       734,714       830,278
## 106                                 Avenue U     2,360,833     2,329,614
## 107                                 Avenue X       738,274       775,436
## 108                               Bay 50 St        900,508       826,074
## 109                                Bay Pkwy      2,502,105     2,435,949
## 110                                Bay Pkwy        214,153       188,225
## 111                                Bay Pkwy      2,950,253     2,266,916
## 112                          Bay Ridge Av        1,282,256     2,228,497
## 113                 Bay Ridge-95    St         1,755,379     1,739,178
## 114                            Bedford Av       9,644,831     9,053,980
## 115               Bedford-Nostrand    Avs       2,779,124     2,774,993
## 116                            Bergen St        1,180,684     1,140,677
## 117                            Bergen St        3,525,144     3,478,946
## 118                          Beverley Rd        1,038,252     1,060,568
## 119                          Beverly Rd         1,348,244     1,307,405
## 120                  Brighton    Beach         3,957,811     3,778,194
## 121                               Broadway      1,385,797     1,402,102
## 122                  Broadway    Junction      2,911,532     2,810,636
## 123            Bushwick    Av-Aberdeen St       682,086       671,545
## 124             Canarsie-Rockaway    Pkwy      3,828,628     3,598,843
## 125                           Carroll St        3,537,661     3,490,924
## 126                           Central Av          539,681       725,022
## 127                          Chauncey St        1,095,638     1,063,828
## 128                            Church Av        2,916,680     2,818,535
## 129                            Church Av        5,455,527     5,161,293
## 130                            Church Av        3,148,411     3,099,383
## 131                             Clark St        1,631,139     1,550,414
## 132                           Classon Av        1,585,121     1,649,340
## 133                         Cleveland St        1,011,734       901,928
## 134              Clinton-Washington    Avs      2,201,880     2,178,439
## 135              Clinton-Washington    Avs      1,551,042     1,534,802
## 136          Coney    Island-Stillwell Av      4,803,755     4,615,664
## 137                         Cortelyou Rd        2,028,859     1,994,734
## 138             Court St   /Borough Hall      10,693,598    10,364,534
## 139                           Crescent St       1,570,485     1,467,166
## 140              Crown    Heights-Utica Av      8,954,499     7,920,192
## 141                        Cypress Hills          435,855       411,331
## 142                            DeKalb Av        6,551,184     6,776,248
## 143                            DeKalb Av        4,171,610     4,000,252
## 144                            Ditmas Av        1,137,998     1,149,528
## 145                          East 105 St        1,201,452     1,139,556
## 146        Eastern    Pkwy-Brooklyn Museum      1,530,635     1,544,013
## 147                            Euclid Av        3,415,739     3,174,827
## 148        Flatbush    Av-Brooklyn College      6,107,780     5,822,873
## 149                          Flushing Av          849,840       874,498
## 150                          Flushing Av        2,764,583     2,537,390
## 151                Fort Hamilton    Pkwy       1,273,516     1,191,580
```

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## 152                      Fort Hamilton    Pkwy     1,786,458     1,765,887
## 153                        Fort Hamilton Pkwy       988,664       969,878
## 154          Franklin Av       /Botanic Garden     4,762,184     4,604,219
## 155                              Franklin Av     2,058,258     2,051,171
## 156                                Fulton St     1,698,778     1,745,439
## 157                                 Gates Av     2,262,915     2,234,908
## 158                                Graham Av     3,299,951     3,093,428
## 159                      Grand Army    Plaza     2,265,097     2,228,173
## 160                                 Grand St     2,256,349     2,126,443
## 161                                 Grant Av     1,950,109     1,842,974
## 162                              Greenpoint Av     2,934,770     2,859,047
## 163                                 Halsey St     2,131,177     2,059,030
## 164                                 Halsey St     2,776,078     2,625,255
## 165                                 Hewes St       894,671       893,262
## 166                                  High St     2,983,672     3,463,611
## 167                                  Hoyt St     2,137,478     1,982,208
## 168                  Hoyt-Schermerhorn    Sts     3,264,293     3,370,038
## 169                       Jay    St-MetroTech    13,007,176    12,504,027
## 170                              Jefferson St     2,566,772     2,515,861
## 171                                 Junius St       298,119       620,548
## 172                                 Kings Hwy     6,040,256     5,895,421
## 173                                 Kings Hwy     1,531,332     1,356,085
## 174                                 Kings Hwy       910,558     1,032,541
## 175                               Kingston Av     1,474,988     1,443,692
## 176                    Kingston-Throop    Avs     2,085,536     2,099,891
## 177                       Knickerbocker    Av       593,366       772,085
## 178                             Kosciuszko St     1,979,192     1,908,610
## 179                              Lafayette Av     1,621,121     1,631,673
## 180                                Liberty Av       886,011       839,241
## 181                                Livonia Av     1,019,591       994,378
## 182                                Lorimer St     1,619,602     1,495,068
## 183             Lorimer St    /Metropolitan Av     5,010,601     4,821,359
## 184                                  Marcy Av     4,199,041     4,171,666
## 185                              Montrose Av     2,306,046     2,239,760
## 186                                Morgan Av     2,594,607     2,465,927
## 187                                Myrtle Av     4,213,096     3,789,470
## 188                  Myrtle-Willoughby    Avs     1,765,653     1,768,122
## 189                     Myrtle-Wyckoff    Avs     7,302,376     6,893,183
## 190                                Nassau Av     2,765,172     2,880,235
## 191                                  Neck Rd     1,379,473     1,366,989
## 192                               Neptune Av       478,754       433,083
## 193                                 Nevins St     3,271,270     3,215,723
## 194                               New Lots Av     1,810,576     1,644,379
## 195                               New Lots Av     1,638,839     1,499,170
## 196                  New Utrecht    Av /62 St     1,651,274     1,503,742
## 197                               Newkirk Av     2,315,386     2,221,270
## 198                            Newkirk Plaza     3,356,199     3,258,207
## 199                               Norwood Av     1,065,073       966,728
## 200                               Nostrand Av     1,295,175     1,250,715
## 201                               Nostrand Av     5,823,419     5,609,408
## 202                               Ocean Pkwy     1,022,378     1,018,695
## 203                                  Park Pl       575,188       537,340
## 204                               Parkside Av     1,953,704     1,979,647
## 205                     Pennsylvania    Av     1,054,654     1,279,685
```

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## 206                          President St     1,227,134     1,197,019
## 207                            Prospect Av       961,733     1,638,002
## 208                         Prospect Park     3,421,790     3,289,464
## 209                              Ralph Av     1,894,817     1,850,375
## 210                            Rockaway Av     1,685,468     1,412,271
## 211                            Rockaway Av     1,794,365     1,790,683
## 212                            Saratoga Av     1,702,107     1,535,733
## 213                     Sheepshead    Bay     4,297,325     4,183,545
## 214                            Shepherd Av     1,038,180       990,387
## 215                            Smith-9 Sts     1,484,326     1,466,151
## 216                            Sterling St     1,787,994     1,753,125
## 217                              Sutter Av     1,394,283     1,246,958
## 218                Sutter    Av-Rutland Rd     1,049,559     1,968,448
## 219                              Union St     1,935,724     2,090,848
## 220                              Utica Av     5,271,782     5,195,786
## 221                          Van Siclen Av     1,078,048       854,150
## 222                          Van Siclen Av     1,026,358       955,230
## 223                          Van Siclen Av       910,042       818,735
## 224          West 8 St-New    York Aquarium       789,104       818,685
## 225                              Wilson Av     1,471,094     1,420,065
## 226                            Winthrop St     2,148,162     2,140,028
## 227                                York St     3,172,717     3,256,154
## 228                               Manhattan     Manhattan     Manhattan
## 229                                    1 Av     7,071,729     6,743,140
## 230                                  103 St     4,114,291     4,072,703
## 231                                  103 St     4,402,069     4,065,523
## 232                                  103 St     1,470,838     1,630,405
## 233                                  110 St     3,734,660     3,394,176
## 234                                  116 St     3,729,434     3,446,526
## 235                                  116 St     5,066,069     4,683,148
## 236                                  116 St     2,253,473     2,262,578
## 237             116 St-Columbia University     4,586,341     4,528,136
## 238                                  125 St     2,438,960     2,457,157
## 239                                  125 St     5,054,479     4,727,671
## 240                                  125 St     9,088,393     8,630,430
## 241                                  125 St     9,335,382     9,037,343
## 242                                  135 St     4,768,474     4,506,259
## 243                                  135 St     1,743,984     1,622,552
## 244                137 St-City College      4,440,108     4,260,166
## 245                       14 St   /8 Av     14,153,266    14,324,670
## 246                   14 St     /6 Av     15,187,056    15,002,214
## 247                    14 St-Union Sq     34,557,551    33,124,407
## 248                                  145 St     3,208,921     3,062,446
## 249                                  145 St     1,093,045       635,413
## 250                                  145 St     7,714,122     7,434,662
## 251                                  155 St     1,212,240     1,115,948
## 252                                  155 St       887,427     1,001,262
## 253                                  157 St     3,488,053     3,514,522
## 254                163    St-Amsterdam Av     1,437,340       548,092
## 255                                  168 St     7,945,871     8,150,537
## 256                                  175 St     4,112,450     3,879,652
## 257                                   18 St     2,594,336     2,683,235
## 258                                  181 St     3,742,446     3,605,435
## 259                                  181 St     3,453,621     3,368,097
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## 260                                   190 St     1,494,996     1,423,142
## 261                                   191 St     2,657,964     2,526,932
## 262                                     2 Av     5,372,036     5,034,358
## 263                                   207 St     2,097,830     2,020,214
## 264                                   215 St       617,727       553,050
## 265                                    23 St     4,557,216     4,853,909
## 266                                    23 St     8,265,227     9,035,498
## 267                                    23 St     7,410,618     7,420,152
## 268                                    23 St     8,636,801     5,099,809
## 269                                    23 St     7,651,650     8,155,834
## 270                                    28 St     4,348,170     4,444,072
## 271                                    28 St     6,836,061     3,525,030
## 272                                    28 St     4,065,263     4,445,982
## 273                                     3 Av     2,319,152     2,204,834
## 274                                    33 St     8,916,102     9,530,273
## 275                     34 St-Herald    Square    39,672,507    39,111,312
## 276                      34    St-Hudson Yards     3,098,699     3,189,867
## 277                      34 St-Penn    Station    26,034,238    25,968,950
## 278                      34 St-Penn    Station    24,366,500    24,857,456
## 279                42 St-Bryant    Pk    /5 Av    17,471,620    17,289,384
## 280            47-50    Sts-Rockefeller Center     8,626,669     8,394,862
## 281                                    49 St     7,111,270     7,748,504
## 282                                 5 Av-53 St     5,367,130     5,136,918
## 283                                 5 Av-59 St     7,751,756     8,088,925
## 284                                    50 St     6,694,422     6,441,984
## 285                                    50 St     4,557,372     2,254,820
## 286                                    57 St    11,300,097    11,978,164
## 287                                 57 St-7 Av    22,929,203    22,991,014
## 288                   59    St-Columbus Circle     7,002,620     7,196,026
## 289                    66 St-Lincoln    Center     6,998,999     6,537,270
## 290                    68 St-Hunter    College     5,105,535     5,299,531
## 291                                     7 Av    12,749,746    12,879,887
## 292                                    72 St     2,799,974     1,382,963
## 293                                    72 St     8,536,209     9,068,131
## 294                                    72 St     8,276,168     7,653,602
## 295                                    77 St     5,102,655     4,990,840
## 296                                    79 St     5,569,352     5,686,332
## 297                8 St-New York    University     4,328,599     4,748,083
## 298         81 St-Museum    of Natural History     5,988,837     6,139,911
## 299                                    86 St    14,277,369    13,486,510
## 300                                    86 St     3,177,707     1,734,366
## 301                                    86 St     7,693,260     8,075,480
## 302                                    86 St    11,948,981    11,702,401
## 303                                    96 St     5,576,058     5,151,742
## 304                                    96 St     2,887,965     2,836,643
## 305                                    96 St     5,445,960     6,014,304
## 306                                    96 St     5,245,449     5,111,358
## 307                               Astor Place     1,327,970     1,275,541
## 308                                   Bowery     8,234,513     8,251,885
## 309                              Bowling Green     2,056,754     1,967,616
## 310                                  Broad St    11,956,465    11,414,999
## 311    Broadway-Lafayette    St    /Bleecker St     9,360,484     9,060,206
## 312 Brooklyn    Bridge-City Hall   /Chambers St     1,756,236     1,884,371
## 313                                   Canal St     5,932,386     6,160,037
```

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## 314                                Canal St    16,285,516    15,995,877
## 315                                Canal St     3,947,489     4,013,259
## 316                Cathedral    Pkwy-110 St     2,377,135     1,168,203
## 317                Cathedral    Pkwy-110 St     2,963,206     2,823,756
## 318             Central Park    North-110 St     6,459,435     6,108,641
## 319                             Chambers St    20,927,141    21,636,146
## 320          Chambers St     /WTC /Park Place     3,193,169     3,312,074
## 321             Christopher    St-Sheridan Sq     2,258,254     1,920,070
## 322                               City Hall     8,128,719     7,922,586
## 323                Delancey St    /Essex St     2,329,753     2,263,932
## 324                               Dyckman St     2,165,366     2,037,425
## 325                               Dyckman St     4,458,909     4,216,327
## 326                            East Broadway     1,700,180     1,757,424
## 327                              Franklin St    26,838,473    27,719,115
## 328                               Fulton St    44,928,488    45,207,849
## 329                  Grand    Central-42 St     7,653,408     7,187,070
## 330                                Grand St     1,209,846     1,232,448
## 331                            Harlem-148 St     4,326,280     4,488,886
## 332                               Houston St     2,954,523     2,796,626
## 333                            Inwood-207 St    17,888,188    16,955,204
## 334                  Lexington Av    /59 St    18,940,774    18,585,755
## 335             Lexington    Av-53 St  /51 St     6,389,408     6,506,078
## 336                      Lexington    Av-63 St     1,726,646     1,686,237
## 337                      Marble    Hill-225 St     4,990,346     5,142,727
## 338                               Prince St     2,861,772     2,764,454
## 339                               Rector St     2,213,971     2,154,295
## 340                               Rector St     2,361,627     2,269,432
## 341                     Roosevelt    Island    10,205,836    10,275,268
## 342               South Ferry    /Whitehall St     3,701,740     3,654,673
## 343                               Spring St     3,637,863     3,853,792
## 344                               Spring St    81,410,028    81,116,784
## 345           Times Sq-42    St        /42 St     6,935,020     6,452,733
## 346                                Wall St     5,704,122     5,646,207
## 347                                Wall St    13,849,130    13,446,383
## 348                West 4    St-Washington Sq             0     1,245,455
## 349                            WTC Cortland             0             0
## 350                                Queens        Queens        Queens
## 351                     103 St-Corona Plaza     6,498,237     6,319,564
## 352                                104 St       560,309       548,871
## 353                                104 St       502,541       456,765
## 354                                111 St     3,721,445     3,608,389
## 355                                111 St       748,813       762,641
## 356                                111 St       948,885       801,639
## 357                                121 St       337,075       391,696
## 358                                169 St     2,629,975     2,497,336
## 359                                 21 St       598,061       550,464
## 360                     21    St-Queensbridge     3,157,675     3,340,366
## 361                                 30 Av     3,437,709     2,373,721
## 362                    33 St-Rawson    St     3,402,610     3,031,465
## 363                                 36 Av     1,677,211     1,446,827
## 364                                 36 St     1,362,430     1,513,330
## 365                    39 Av- Dutch Kills       979,103       665,750
## 366                    40 St-Lowery    St     3,261,769     3,048,104
## 367                                 46 St     2,781,811     2,711,011
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## 368                        46 St-Bliss    St     4,303,987     4,058,815
## 369                                52 St          2,027,659     1,883,246
## 370                       63 Dr-Rego    Park     4,991,559     4,769,745
## 371                                65 St          1,120,703     1,129,031
## 372                                67 Av          2,695,321     2,592,645
## 373                                69 St          1,602,770     1,510,410
## 374       74-Bway    /Jackson Hts-Roosevelt Av    17,095,073    16,994,358
## 375                                75 Av            994,127     1,019,978
## 376                     75 St-Elderts    Ln        1,069,608       992,267
## 377                                80 St          1,346,296     1,332,047
## 378                    82 St-Jackson    Hts       5,018,542     4,741,470
## 379                    85 St-Forest    Pkwy       1,156,600     1,063,133
## 380                                88 St            880,776       855,851
## 381                    90    St-Elmhurst Av       5,460,868     5,245,160
## 382                   Aqueduct    Racetrack          641,464       732,091
## 383              Aqueduct-North    Conduit Av         309,029       276,067
## 384                            Astoria Blvd       3,988,480     4,226,298
## 385                Astoria-Ditmars    Blvd       5,031,462     4,543,854
## 386                            Beach 105 St           97,654        92,852
## 387                             Beach 25 St          582,975       543,839
## 388                             Beach 36 St          298,395       275,165
## 389                             Beach 44 St          214,473       216,609
## 390                             Beach 60 St          726,189       630,038
## 391          Beach 67    St-Arverne By The Sea       792,444       669,421
## 392                            Beach 90 St          411,887       382,766
## 393                            Beach 98 St          180,588       154,620
## 394                Briarwood-Van    Wyck Blvd       1,489,396     1,462,744
## 395                          Broad Channel             87,774        82,248
## 396                               Broadway       4,060,805     2,436,810
## 397                               Court Sq       7,003,218     7,218,939
## 398                            Elmhurst Av       4,039,686     3,898,046
## 399                   Far    Rockaway-Mott Av       1,472,005     1,376,087
## 400                       Flushing-Main    St     18,746,832    17,799,862
## 401                                Forest Av            796,742       927,801
## 402                     Forest    Hills-71 Av       8,748,221     8,115,385
## 403                            Fresh Pond Rd       1,198,376     1,400,512
## 404                      Grand    Av-Newtown       5,792,378     5,713,827
## 405                Howard    Beach-JFK Airport       1,123,405     1,154,695
## 406                         Hunters Point    Av       1,999,970     1,932,478
## 407           Jamaica    Center-Parsons-Archer      11,604,228    10,681,269
## 408                            Jamaica-179    St       6,463,698     6,270,766
## 409                         Jamaica-Van    Wyck       1,555,962     1,502,672
## 410                               Junction Blvd       7,084,849     6,896,657
## 411              Kew    Gardens-Union Turnpike       7,811,007     7,680,149
## 412                       Mets-Willets    Point       1,873,789     1,756,825
## 413          Middle    Village-Metropolitan Av          875,782       954,875
## 414                            Northern Blvd       2,140,551     2,097,374
## 415                Ozone    Park-Lefferts Blvd       2,306,419     2,296,755
## 416                             Parsons Blvd       1,998,650     2,003,517
## 417                             Queens Plaza       3,374,948     3,886,574
## 418                          Queensboro    Plaza     4,566,287     5,079,051
## 419                               Rockaway Blvd       2,371,645     2,336,304
## 420              Rockaway    Park-Beach 116 St          235,691       240,483
## 421                                Seneca Av            454,373       565,714
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## 422                                Steinway St     4,733,777     5,075,623
## 423                              Sutphin Blvd     1,338,831     1,303,795
## 424       Sutphin    Blvd-Archer Av-JFK Airport     7,457,153     7,282,128
## 425                  Vernon    Blvd-Jackson Av     4,821,191     4,493,326
## 426                       Woodhaven    Blvd     1,512,676     1,370,889
## 427                       Woodhaven    Blvd     6,871,409     6,509,386
## 428                       Woodside-61    St     5,457,171     5,282,486
## 429                                Brooklyn   379,372,550   370,231,302
## 430                                   Bronx   149,220,838   139,238,932
## 431                               Manhattan   955,572,737   936,516,980
## 432                                  Queens   243,113,483   234,085,767
## 433                   Systemwide    Adjustment        86,999       -12,579
## 434                              System Total 1,727,366,607 1,680,060,402
## 435
##             X2019       X2020       X2021         X2022 X2021.2022.Change
## 1       The Bronx   The Bronx   The Bronx     The Bronx         The Bronx
## 2       1,035,878     371,408     656,866       766,610           109,744
## 3       3,931,908   1,815,785   1,832,521     2,026,363           193,842
## 4       8,254,928   3,221,651   4,077,604     5,023,193           945,589
## 5       2,653,237   1,396,287   1,615,072     1,847,368           232,296
## 6       2,734,530   1,422,149   1,508,270     1,492,833           -15,437
## 7       2,487,611   1,265,950   1,278,506     1,499,662           221,156
## 8       2,130,461   1,002,095   1,104,637     1,121,869            17,232
## 9       2,057,118     953,564   1,077,126     1,140,821            63,695
## 10      1,518,260     788,121     853,579       859,988             6,409
## 11      1,713,696     876,865     939,585     1,055,833           116,248
## 12      1,513,443     761,613     812,994       866,961            53,967
## 13      1,779,224     951,634   1,051,456     1,196,389           144,933
## 14        979,390     457,388     495,442       530,795            35,353
## 15      1,187,486     549,296     605,491       621,548            16,057
## 16      2,919,305   1,289,691   1,462,605     1,810,807           348,202
## 17      1,445,532     721,495     796,596       845,998            49,402
## 18      1,204,095     588,199     678,017       872,799           194,782
## 19      2,503,850   1,271,192   1,359,371     1,503,905           144,534
## 20      6,768,255   3,166,766   3,301,418     3,330,977            29,559
## 21      1,614,464     760,068     850,231       896,938            46,707
## 22      1,094,872     491,293     485,836       548,542            62,706
## 23      2,143,375     968,590   1,106,992     1,165,034            58,042
## 24      1,538,253     691,845     795,864     1,091,465           295,601
## 25        769,303     354,016     421,588       470,109            48,521
## 26      1,823,468     949,904   1,026,185     1,117,049            90,864
## 27      1,146,032     519,694     585,402       734,364           148,962
## 28      1,000,896     480,152     531,811       552,450            20,639
## 29      3,113,514   1,473,081   1,614,822     1,824,767           209,945
## 30      1,954,511     947,432   1,043,725     1,196,644           152,919
## 31      1,043,922     507,795     519,868       559,225            39,357
## 32        313,938     168,285     196,864       254,297            57,433
## 33      1,467,410     788,235     828,659       927,728            99,069
## 34      2,211,198   1,142,139   1,216,916     1,421,302           204,386
## 35      1,331,886     631,122     658,061       724,813            66,752
## 36      1,996,492   1,053,012   1,148,003     1,297,150           149,147
## 37      3,120,976   1,580,225   1,837,293     2,066,360           229,067
## 38      3,671,217   1,713,032   1,843,504     1,838,773            -4,731
## 39      1,358,821     642,087     739,184       840,179           100,995
```

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## 40     2,271,942   1,012,373   1,103,035     1,142,015          38,980
## 41     1,248,513     466,005     757,669       909,737         152,068
## 42     3,174,354   1,633,812   1,729,412     1,992,329         262,917
## 43       964,689     472,958     547,183       591,075          43,892
## 44     1,584,727     740,308     830,161       951,497         121,336
## 45     2,733,096   1,357,273   1,494,520     1,800,580         306,060
## 46     2,485,283   1,189,102   1,195,990     1,200,434           4,444
## 47       949,680     390,165     554,609       675,547         120,938
## 48       597,839     257,912     289,799       363,695          73,896
## 49       711,229     318,988     373,691       469,688          95,997
## 50     1,970,185   1,000,610   1,095,552     1,236,633         141,081
## 51     2,491,758   1,274,467   1,423,888     1,647,450         223,562
## 52     1,551,038     823,443     904,701       990,090          85,389
## 53     1,006,617     470,230     538,907       588,166          49,259
## 54     2,639,003   1,315,356   1,366,801     1,435,139          68,338
## 55     4,734,709   2,205,552   2,409,332     2,809,208         399,876
## 56     2,134,403     951,324   1,011,530     1,123,255         111,725
## 57     2,651,208   1,222,206   1,427,443     1,433,009           5,566
## 58       896,134     405,004     447,473       547,814         100,341
## 59     2,148,059   1,021,781   1,125,530     1,233,175         107,645
## 60     2,602,749   1,230,833   1,385,438     1,427,465          42,027
## 61     1,276,865     641,826     699,851       793,668          93,817
## 62     3,052,099   1,433,744   1,518,048     1,446,787         -71,261
## 63     2,189,109     980,836   1,111,670     1,350,182         238,512
## 64     1,404,748     711,029     773,321       798,984          25,663
## 65     2,104,945     947,252   1,072,113     1,104,895          32,782
## 66     1,796,415     835,515     929,707     1,037,465         107,758
## 67       586,845     308,198     331,929       378,959          47,030
## 68     2,094,285     949,554   1,112,041     1,164,758          52,717
## 69       795,756     361,499     401,426       482,341          80,915
## 70      Brooklyn    Brooklyn    Brooklyn      Brooklyn         Brooklyn
## 71     1,964,534     681,492     861,654     1,195,846         334,192
## 72     1,942,617     851,720     953,937     1,245,222         291,285
## 73     1,113,492     503,136     556,981       668,159         111,178
## 74     1,179,756     677,764     895,072     1,085,017         189,945
## 75     1,578,971     703,957     780,372     1,032,840         252,468
## 76     1,142,086     486,218     627,481       833,636         206,155
## 77     1,507,759     609,450     671,478       870,160         198,682
## 78     1,153,842     504,579     632,081       758,500         126,419
## 79     4,254,406   1,924,520   2,410,423     3,189,981         779,558
## 80     3,924,882   1,531,708   1,946,762     2,559,111         612,349
## 81     2,461,410   1,081,234   1,357,398     1,610,445         253,047
## 82       976,988     521,944     589,552       718,744         129,192
## 83     2,797,730   1,368,019   1,603,169     1,869,707         266,538
## 84       637,405     330,043     363,734       406,691          42,957
## 85     3,664,480   1,631,566   2,190,023     2,640,485         450,462
## 86     3,103,599   1,007,948   1,382,641     1,896,094         513,453
## 87     3,675,218   1,314,989   1,694,473     2,374,719         680,246
## 88     1,722,921     721,711     788,730     1,016,652         227,922
## 89     1,674,582     700,333     839,021     1,021,447         182,426
## 90     1,926,290     816,330     964,785     1,254,702         289,917
## 91     3,801,700   1,424,892   1,771,913     2,314,853         542,940
## 92       708,542     365,213     442,826       531,019          88,193
## 93     3,434,888   1,538,353   1,869,595     2,269,098         399,503
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## 94      1,708,387     807,970     926,924     1,201,915          274,991
## 95        628,299     337,011     367,463       365,853           -1,610
## 96        469,819     228,515     273,703       332,637           58,934
## 97     13,939,794   5,474,265   6,420,924     8,482,075        2,061,151
## 98        991,766     395,439     420,875       603,679          182,804
## 99        584,129     262,583     286,430       352,714           66,284
## 100     1,775,846     799,621     973,093     1,119,574          146,481
## 101     1,691,285     763,258     956,834     1,135,367          178,533
## 102       877,383     393,183     416,424       522,722          106,298
## 103       739,804     333,836     361,909       468,588          106,679
## 104       547,776     248,310     268,720       334,808           66,088
## 105     1,019,104     503,937     659,430       788,389          128,959
## 106     2,301,941     979,080   1,194,190     1,422,746          228,556
## 107       758,700     334,714     345,053       442,124           97,071
## 108       821,873     351,591     431,849       563,601          131,752
## 109     2,446,673   1,086,573   1,198,845     1,562,104          363,259
## 110       362,802     167,877     186,383       240,275           53,892
## 111     2,071,452     940,309   1,204,285     1,481,407          277,122
## 112     2,354,120   1,023,374   1,248,115     1,520,403          272,288
## 113     1,743,441     740,055     840,527     1,020,739          180,212
## 114     7,836,366   2,873,798   4,989,268     7,255,571        2,266,303
## 115     2,795,387   1,062,724   1,400,855     1,810,693          409,838
## 116     1,208,319     435,520     525,186       775,145          249,959
## 117     3,577,496   1,240,354   1,602,668     2,285,452          682,784
## 118     1,048,249     453,974     567,370       747,264          179,894
## 119     1,284,232     607,427     690,326       867,812          177,486
## 120     3,745,994   1,683,782   1,947,393     2,283,378          335,985
## 121     1,506,905     728,238     868,771       995,482          126,711
## 122     2,759,349   1,292,868   1,317,906     1,445,460          127,554
## 123       600,188     298,031     418,114       517,348           99,234
## 124     3,302,691   1,306,173   1,062,745     1,091,454           28,709
## 125     3,615,019   1,261,245   1,605,517     2,241,074          635,557
## 126     1,472,067     591,081     613,375       797,703          184,328
## 127     1,076,510     479,409     526,390       569,841           43,451
## 128     2,862,033   1,335,645   1,537,560     1,844,979          307,419
## 129     5,061,013   2,181,585   2,569,628     3,024,750          455,122
## 130     3,051,736   1,368,063   1,579,762     1,917,284          337,522
## 131     1,781,419     589,682     667,841       845,791          177,950
## 132     1,722,852     667,262     895,280     1,201,492          306,212
## 133       880,879     436,011     451,537       459,057            7,520
## 134     2,144,338     724,726     916,121     1,328,169          412,048
## 135     1,609,332     574,939     787,190     1,083,797          296,607
## 136     4,579,191   1,838,369   2,288,692     2,879,052          590,360
## 137     1,957,538     835,380   1,023,916     1,232,328          208,412
## 138    10,135,722   3,356,706   3,728,044     5,334,384        1,606,340
## 139     1,391,945     677,801     739,465       767,792           28,327
## 140     7,933,008   3,654,953   3,936,420     4,584,880          648,460
## 141       420,647     222,325     247,051       263,283           16,232
## 142     6,708,640   2,419,410   2,878,314     3,915,266        1,036,952
## 143     3,290,894   1,541,784   2,155,743     2,485,248          329,505
## 144     1,177,275     538,215     612,635       768,067          155,432
## 145     1,001,343     477,302     479,124       541,924           62,800
## 146     1,338,351     441,688     681,607       920,056          238,449
## 147     3,240,578   1,537,226   1,547,409     1,740,093          192,684
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## 148    5,684,108   2,404,776   2,587,148    3,270,806          683,658
## 149      732,897     402,100     558,413      624,004           65,591
## 150    2,773,154   1,256,788   1,372,156    1,480,637          108,481
## 151    1,207,971     614,581     731,471      868,470          136,999
## 152    1,800,167     633,055     817,620    1,155,293          337,673
## 153    1,372,278     780,316     996,284    1,344,329          348,045
## 154    4,999,385   1,849,090   2,137,307    2,870,917          733,610
## 155    1,977,940     781,552     874,945    1,085,731          210,786
## 156    1,768,601     743,347     973,973    1,322,495          348,522
## 157    2,249,791     957,606   1,125,621    1,313,293          187,672
## 158    2,709,511   1,039,834   1,492,809    1,940,867          448,058
## 159    2,295,401     813,305     984,813    1,390,871          406,058
## 160    1,847,219     809,406   1,122,527    1,408,122          285,595
## 161    1,749,932     802,190     853,610    1,028,850          175,240
## 162    3,089,912   1,296,681   1,704,159    2,092,568          388,409
## 163    2,120,521     871,012     950,058    1,099,779          149,721
## 164    2,176,141   1,005,045   1,327,970    1,582,831          254,861
## 165    1,117,566     468,382     516,269      564,558           48,289
## 166    3,536,860   1,043,554   1,397,257    2,166,149          768,892
## 167    2,293,256     898,643   1,084,836    1,397,715          312,879
## 168    3,605,153   1,426,671   1,744,024    2,308,619          564,595
## 169   12,238,047   4,048,255   4,473,920    6,436,276        1,962,356
## 170    2,237,997     912,845   1,347,227    1,766,118          418,891
## 171      676,092     346,436     364,344      446,604           82,260
## 172    5,938,819   2,588,491   3,187,538    3,871,890          684,352
## 173    1,129,071     488,475     510,956      637,058          126,102
## 174    1,371,311     691,832     897,516    1,120,133          222,617
## 175    1,472,802     620,880     745,263      914,558          169,295
## 176    2,055,094     791,030     936,706    1,265,471          328,765
## 177    1,544,093     659,855     675,807      815,237          139,430
## 178    1,779,062     731,320     882,810    1,056,675          173,865
## 179    1,599,887     619,691     791,660    1,085,680          294,020
## 180      833,633     381,652     400,476      465,654           65,178
## 181      856,615     446,530     394,344      529,679          135,335
## 182    1,747,990     716,035     742,682      820,290           77,608
## 183    4,696,924   1,780,896   2,463,789    3,409,157          945,368
## 184    4,717,791   1,816,258   2,028,980    2,540,327          511,347
## 185    1,933,886     828,023   1,221,841    1,520,566          298,725
## 186    2,100,475     866,007   1,234,325    1,569,277          334,952
## 187    3,854,024   1,563,366   1,734,324    2,135,172          400,848
## 188    1,820,637     789,214     957,769    1,190,174          232,405
## 189    5,927,332   2,704,645   3,318,793    4,276,355          957,562
## 190    3,136,229   1,186,206   1,522,386    1,942,189          419,803
## 191    1,362,524     573,448     655,522      826,571          171,049
## 192      428,163     185,099     211,247      288,867           77,620
## 193    3,150,597   1,189,273   1,309,465    1,760,370          450,905
## 194    1,643,487     800,943     821,266      934,273          113,007
## 195    1,254,351     606,925     655,706      709,206           53,500
## 196    1,501,183     718,496     898,154    1,076,361          178,207
## 197    2,131,839   1,021,789   1,142,138    1,358,530          216,392
## 198    3,252,504   1,356,510   1,689,443    2,021,403          331,960
## 199      948,571     454,457     472,565      500,597           28,032
## 200    1,370,372     512,753     603,014      745,179          142,165
## 201    5,608,232   2,150,476   2,617,531    3,346,986          729,455
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202	1,033,340	462,998	548,606	665,586	116,980
203	519,984	214,950	259,323	326,818	67,495
204	1,955,051	861,896	1,070,163	1,256,444	186,281
205	1,360,708	662,596	719,312	792,673	73,361
206	1,037,219	443,229	559,407	692,595	133,188
207	1,780,893	676,624	885,878	1,175,311	289,433
208	3,323,334	1,261,501	1,604,509	2,077,169	472,660
209	1,829,126	818,101	878,860	1,010,247	131,387
210	1,451,431	722,986	764,655	812,348	47,693
211	1,787,343	781,385	837,692	988,760	151,068
212	1,556,357	786,160	841,082	920,284	79,202
213	4,169,796	1,772,098	2,052,229	2,519,233	467,004
214	977,012	449,144	472,122	542,269	70,147
215	1,435,824	609,725	698,444	881,979	183,535
216	1,654,809	745,895	911,058	1,128,133	217,075
217	1,047,762	483,645	512,751	504,518	-8,233
218	2,019,485	995,590	1,056,784	1,184,067	127,283
219	2,271,983	808,042	1,093,965	1,457,176	363,211
220	5,106,247	2,085,483	2,249,322	2,671,676	422,354
221	853,106	413,650	413,686	473,728	60,042
222	918,811	437,290	442,084	501,085	59,001
223	791,691	416,713	459,448	504,052	44,604
224	837,836	315,691	431,449	583,500	152,051
225	1,290,221	587,630	761,687	923,267	161,580
226	1,882,065	974,253	1,203,929	1,499,531	295,602
227	3,927,129	1,257,103	1,561,021	2,551,202	990,181
228	Manhattan	Manhattan	Manhattan	Manhattan	Manhattan
229	5,345,371	2,177,284	3,960,124	5,337,253	1,377,129
230	3,766,055	1,470,254	1,880,611	2,574,644	694,033
231	4,039,570	1,851,275	2,112,042	2,489,375	377,333
232	1,498,363	579,191	718,579	922,327	203,748
233	3,316,061	1,468,770	1,722,459	2,050,861	328,402
234	3,345,661	1,375,593	1,612,653	1,914,872	302,219
235	4,572,453	2,052,609	2,341,695	2,794,564	452,869
236	2,288,111	896,442	1,067,970	1,358,486	290,516
237	4,380,469	1,316,284	1,822,117	2,897,994	1,075,877
238	2,368,025	967,478	1,203,374	1,761,867	558,493
239	4,644,262	1,848,803	2,121,918	2,521,152	399,234
240	8,554,857	3,587,673	3,772,990	4,475,736	702,746
241	9,208,598	3,863,203	4,353,615	5,182,313	828,698
242	4,268,823	1,867,402	2,048,382	2,262,461	214,079
243	1,743,921	667,495	753,875	1,019,037	265,162
244	3,874,783	1,717,440	1,941,779	2,533,342	591,563
245	14,239,275	4,463,227	6,144,808	9,193,520	3,048,712
246	14,736,035	5,057,029	6,306,914	8,792,335	2,485,421
247	32,385,260	10,830,712	13,165,975	17,809,631	4,643,656
248	2,936,613	1,264,852	1,559,488	2,036,875	477,387
249	954,825	438,388	506,217	574,054	67,837
250	7,464,653	3,111,334	3,468,964	4,225,726	756,762
251	1,123,868	546,625	581,704	630,547	48,843
252	895,036	367,255	415,142	490,246	75,104
253	3,739,786	1,414,356	1,715,878	2,220,795	504,917
254	1,390,312	617,596	679,641	783,629	103,988
255	6,156,288	3,265,733	4,029,229	4,657,808	628,579

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## 256     4,182,625   1,665,946   1,995,451     2,135,272          139,821
## 257     2,649,616     803,924     961,311     1,497,039          535,728
## 258     3,523,536   1,682,772     115,142     1,952,205        1,837,063
## 259     3,404,841   1,364,548   2,009,705     1,874,762         -134,943
## 260     1,535,450     562,043     476,475       776,585          300,110
## 261     2,333,160     453,577   1,439,161     1,534,115           94,954
## 262     5,583,944   1,846,978   2,557,592     3,571,480        1,013,888
## 263     1,853,146     892,067     998,062     1,307,026          308,964
## 264       527,505     212,402     274,527       403,240          128,713
## 265     4,627,755   1,566,363   1,843,351     2,741,773          898,422
## 266     8,659,806   2,677,996   2,985,473     4,766,220        1,780,747
## 267     7,272,610   2,341,259   2,932,938     3,897,436          964,498
## 268     8,619,473   3,100,291   3,240,722     4,752,694        1,511,972
## 269     7,085,694   2,020,698   2,468,679     3,645,349        1,176,670
## 270     4,493,352   1,367,598   1,582,275     2,584,967        1,002,692
## 271     5,834,989   2,230,478   2,553,865     3,626,532        1,072,667
## 272     4,018,310   1,197,468   1,435,457     2,142,492          707,035
## 273     1,700,456     742,241   1,119,803     1,448,575          328,772
## 274     8,934,900   3,078,482   3,655,767     4,851,074        1,195,307
## 275    39,385,436  12,826,841  15,037,793    20,972,120        5,934,327
## 276     6,108,384   2,092,769   2,811,015     4,376,335        1,565,320
## 277    25,967,676   8,103,809   8,935,671    13,340,397        4,404,726
## 278    25,631,364   8,010,472   9,855,288    14,328,387        4,473,099
## 279    18,604,810   5,826,100   6,110,395     9,781,251        3,670,856
## 280     7,410,041   1,985,474   2,653,104     4,692,505        2,039,401
## 281     7,684,091   2,076,871   2,328,956     3,716,861        1,387,905
## 282     4,995,128   1,672,584   2,137,582     3,026,367          888,785
## 283     8,134,360   2,213,137   2,481,176     4,946,989        2,465,813
## 284     6,902,595   2,002,813   2,714,329     4,126,925        1,412,596
## 285     4,550,216   1,491,039   1,775,855     2,992,231        1,216,376
## 286    11,012,550   3,474,824   4,099,554     6,429,389        2,329,835
## 287    23,040,650   7,618,925   9,310,678    13,777,313        4,466,635
## 288     7,068,256   2,141,714   2,479,656     4,015,455        1,535,799
## 289     6,699,711   2,511,235   2,987,056     4,278,409        1,291,353
## 290     5,508,778   1,545,234   1,757,665     3,100,698        1,343,033
## 291    12,379,560   4,498,641   5,718,388     7,791,430        2,073,042
## 292     2,837,041     935,070   1,369,718     1,904,998          535,280
## 293     9,528,891   3,752,228   4,786,684     5,884,370        1,097,686
## 294     7,821,286   3,190,550   4,117,467     5,359,989        1,242,522
## 295     4,745,863   1,678,293   2,273,868     3,182,626          908,758
## 296     5,434,212   1,549,451   2,116,673     3,260,289        1,143,616
## 297     4,407,607   1,275,973   1,888,156     2,819,094          930,938
## 298     5,659,795   2,076,862   2,712,070     3,672,777          960,707
## 299    13,537,308   5,155,496   6,576,295     8,783,809        2,207,514
## 300     3,232,637   1,188,684   1,548,082     2,073,430          525,348
## 301     8,378,778   2,913,038   3,589,258     4,881,132        1,291,874
## 302    11,628,887   4,293,386   5,381,939     7,059,602        1,677,663
## 303     5,145,222   2,219,217   2,656,566     3,392,056          735,490
## 304     3,038,864   1,194,638   1,478,303     1,831,940          353,637
## 305     6,154,837   2,353,959   2,771,138     3,535,278          764,140
## 306     5,502,925   1,684,189   2,127,381     3,222,161        1,094,780
## 307     1,325,244     454,326     572,281       748,064          175,783
## 308     8,362,034   2,503,222   2,632,772     4,011,235        1,378,463
## 309     2,172,223     698,480     746,314     1,032,292          285,978
```

```
## 310    12,455,155   4,062,645   5,274,947     7,806,844         2,531,897
## 311     9,065,146   2,710,023   3,147,136     5,050,750         1,903,614
## 312     1,984,827     560,302     633,250       988,102           354,852
## 313     6,403,172   1,965,245   2,243,849     3,247,717         1,003,868
## 314    15,861,864   4,881,373   6,297,364     8,680,004         2,382,640
## 315     3,703,893   1,433,586   1,917,734     2,616,906           699,172
## 316     2,396,624     934,145   1,205,170     1,524,260           319,090
## 317     2,666,985   1,060,348   1,222,250     1,475,096           252,846
## 318     5,941,546   1,781,685   1,957,661     3,259,105         1,301,444
## 319    20,820,549   5,930,847   6,413,162    10,218,699         3,805,537
## 320     3,412,332   1,067,635   1,597,437     2,434,305           836,868
## 321     1,710,380     536,758     616,119       944,529           328,410
## 322     8,861,296   3,388,714   4,415,980     5,961,548         1,545,568
## 323     2,079,656   1,055,222   1,154,408     1,467,267           312,859
## 324     2,238,372     953,250   1,095,910     1,214,785           118,875
## 325     4,460,330   1,622,512   2,013,700     2,825,001           811,301
## 326     1,567,005     501,136     613,327     1,090,840           477,513
## 327    27,715,365   8,855,302   9,728,874    14,963,870         5,234,996
## 328    45,745,700  13,162,826  14,002,142    22,937,475         8,935,333
## 329     8,024,364   2,908,017   3,676,433     4,922,207         1,245,774
## 330     1,120,454     473,937     532,571       610,285            77,714
## 331     4,496,793   1,378,640   1,509,148     2,374,723           865,575
## 332     3,150,731   1,260,062   1,396,591     1,484,846            88,255
## 333    16,760,813   6,273,480   7,397,107     9,894,012         2,496,905
## 334    18,957,465   5,718,725   6,226,900     9,748,849         3,521,949
## 335     6,567,634   2,441,527   3,129,478     4,070,117           940,639
## 336     1,561,844     754,010     828,832     1,025,805           196,973
## 337     4,342,692   1,218,279   1,864,902     2,673,575           808,673
## 338     2,554,523     708,206     887,375     1,406,133           518,758
## 339     2,014,996     594,426     674,273       952,233           277,960
## 340     2,380,764     893,253   1,230,617     1,781,913           551,296
## 341    10,272,682   3,065,053   3,600,135     5,151,250         1,551,115
## 342     3,754,272   1,123,745   1,682,203     2,557,718           875,515
## 343     4,423,135   1,377,863   1,762,208     2,509,293           747,085
## 344    82,233,996  25,746,634  29,507,558    45,023,339        15,515,781
## 345     6,910,581   2,029,161   1,991,358     3,065,803         1,074,445
## 346     5,720,475   1,710,383   1,794,655     2,729,596           934,941
## 347    14,063,633   4,503,429   5,833,859     8,145,412         2,311,553
## 348     4,232,521   1,138,815   1,280,003     2,437,993         1,157,990
## 349             0           0                 1,245,455         1,245,455
## 350        Queens      Queens      Queens        Queens            Queens
## 351     6,399,657   3,311,294   4,069,292     4,758,594           689,302
## 352       536,924     243,156     274,883       345,525            70,642
## 353       774,888     365,060     439,642       494,615            54,973
## 354     3,836,999   2,119,770   2,399,049     2,774,756           375,707
## 355       760,163     339,066     368,997       450,084            81,087
## 356       350,344     302,101     378,100       414,879            36,779
## 357       675,500     315,015     384,709       446,750            62,041
## 358     2,465,120   1,061,564   1,241,861     1,523,722           281,861
## 359       535,536     228,383     313,868       373,697            59,829
## 360     3,516,992   1,355,845   1,531,006     2,230,639           699,633
## 361     5,230,182   1,767,179   2,033,898     2,633,548           599,650
## 362     2,907,388     956,400   1,032,172     1,581,947           549,775
## 363     1,933,812     845,827     980,573     1,288,740           308,167
```

364	1,383,420	470,766	519,938	728,776	208,838
365	761,816	382,607	425,965	617,339	191,374
366	3,074,342	1,236,614	1,539,302	2,013,903	474,601
367	2,609,445	1,052,114	1,250,697	1,591,672	340,975
368	4,019,044	1,769,578	2,169,169	2,687,856	518,687
369	1,907,368	847,430	1,061,804	1,317,534	255,730
370	4,753,706	1,954,647	2,319,942	2,798,730	478,788
371	1,098,148	465,309	567,622	678,095	110,473
372	2,641,450	1,021,518	1,161,639	1,487,051	325,412
373	1,564,387	743,488	993,701	1,280,250	286,549
374	17,077,862	7,523,538	9,437,073	11,848,368	2,411,295
375	1,059,027	395,084	463,228	605,747	142,519
376	1,029,388	516,795	616,695	653,029	36,334
377	1,298,825	552,808	662,344	854,247	191,903
378	4,893,865	2,297,896	3,182,336	3,751,240	568,904
379	1,061,293	546,685	632,887	692,867	59,980
380	853,110	384,745	430,498	531,202	100,704
381	5,272,683	2,661,934	3,299,515	3,791,913	492,398
382	601,436	168,737	234,571	200,290	-34,281
383	263,422	107,146	125,407	142,044	16,637
384	723,354	1,053,976	1,582,181	2,182,362	600,181
385	5,277,341	1,996,236	2,280,654	2,999,579	718,925
386	88,439	37,750	41,437	57,637	16,200
387	517,164	258,136	267,817	314,340	46,523
388	292,305	149,257	155,722	174,537	18,815
389	215,701	109,448	111,217	127,686	16,469
390	623,826	313,416	312,493	349,205	36,712
391	718,008	366,760	383,966	436,104	52,138
392	348,771	129,188	148,147	171,603	23,456
393	164,130	63,297	71,935	93,397	21,462
394	1,501,152	627,403	742,983	968,251	225,268
395	90,358	35,837	39,981	49,631	9,650
396	3,038,655	1,463,280	1,809,540	2,365,718	556,178
397	7,033,377	2,368,959	2,830,854	4,426,924	1,596,070
398	3,867,341	1,706,575	2,047,952	2,446,607	398,655
399	1,347,765	709,394	715,676	775,401	59,725
400	17,568,837	6,944,923	9,206,396	11,722,581	2,516,185
401	1,310,163	609,687	689,509	861,278	171,769
402	8,027,234	3,100,667	3,659,612	4,794,614	1,135,002
403	1,776,084	841,585	937,847	1,132,629	194,782
404	5,730,846	2,394,479	2,932,966	3,588,300	655,334
405	1,171,303	325,750	457,932	766,744	308,812
406	1,885,928	705,574	703,246	1,038,309	335,063
407	10,010,419	4,284,646	4,766,773	5,240,027	473,254
408	6,262,449	2,741,359	3,023,613	3,723,038	699,425
409	1,412,179	807,093	777,620	907,248	129,628
410	6,883,317	3,622,647	4,656,086	5,520,086	864,000
411	7,625,674	3,054,242	3,508,016	4,448,452	940,436
412	2,025,162	311,888	1,034,620	1,430,664	396,044
413	1,090,449	514,007	612,324	749,356	137,032
414	2,008,091	902,165	1,067,116	1,268,933	201,817
415	2,216,647	1,019,115	1,076,417	1,263,152	186,735
416	2,086,114	1,089,861	1,133,530	1,377,535	244,005
417	4,334,290	1,422,188	1,691,730	2,662,316	970,586

```
## 418     5,018,211   1,790,223   2,225,527     3,116,629           891,102
## 419     2,299,903   1,040,869   1,196,776     1,459,323           262,547
## 420       228,144     110,133     109,098       131,421            22,323
## 421     1,080,829     474,806     466,641       531,319            64,678
## 422     4,715,335   1,768,131   2,110,765     2,629,433           518,668
## 423     1,345,420     702,013     707,596       836,028           128,432
## 424     7,354,064   2,951,061   3,799,692     4,770,175           970,483
## 425     4,623,070   1,768,317   2,189,038     3,113,214           924,176
## 426     1,337,787     681,796     753,419       838,374            84,955
## 427     6,381,132   2,634,483   3,302,348     3,905,277           602,929
## 428     5,345,369   2,391,083   3,037,602     3,872,081           834,479
## 429   370,545,959 153,292,738 183,587,543   232,489,655        48,902,112
## 430   138,381,037  65,662,311  72,920,734    81,067,948         8,147,214
## 431   952,710,327 319,882,176 381,549,651   546,640,695       165,091,044
## 432   236,149,679 100,703,801 121,918,793   153,227,167        31,308,374
## 433                                                                    0
## 434 1,697,787,002 639,541,025 759,976,721 1,013,425,465       253,448,744
## 435
##             X X2022.Rank
## 1   The Bronx  The Bronx
## 2       16.70%        333
## 3       10.60%        152
## 4       23.20%         37
## 5       14.40%        165
## 6       -1.00%        194
## 7       17.30%        191
## 8        1.60%        257
## 9        5.90%        252
## 10       0.80%        309
## 11      12.40%        272
## 12       6.60%        307
## 13      13.80%        243
## 14       7.10%        375
## 15       2.70%        354
## 16      23.80%        170
## 17       6.20%        311
## 18      28.70%        303
## 19      10.60%        190
## 20       0.90%         79
## 21       5.50%        301
## 22      12.90%        368
## 23       5.20%        248
## 24      37.10%        263
## 25      11.50%        387
## 26       8.90%        260
## 27      25.40%        339
## 28       3.90%        367
## 29      13.00%        169
## 30      14.70%        242
## 31       7.60%        366
## 32      29.20%        413
## 33      12.00%        293
## 34      16.80%        211
## 35      10.10%        341
```

```
## 36     13.00%        226
## 37     12.50%        149
## 38     -0.30%        167
## 39     13.70%        313
## 40      3.50%        251
## 41     20.10%        299
## 42     15.20%        155
## 43      8.00%        359
## 44     14.60%        290
## 45     20.50%        172
## 46      0.40%        241
## 47     21.80%        347
## 48     25.50%        403
## 49     25.70%        388
## 50     12.90%        235
## 51     15.70%        178
## 52      9.40%        285
## 53      9.10%        360
## 54      5.00%        206
## 55     16.60%        100
## 56     11.00%        256
## 57      0.40%        207
## 58     22.40%        369
## 59      9.60%        236
## 60      3.00%        209
## 61     13.40%        323
## 62     -4.70%        204
## 63     21.50%        219
## 64      3.30%        321
## 65      3.10%        261
## 66     11.60%        274
## 67     14.20%        400
## 68      4.70%        249
## 69     20.20%        385
## 70   Brooklyn   Brooklyn
## 71     38.80%        244
## 72     30.50%        234
## 73     20.00%        348
## 74     21.20%        268
## 75     32.40%        275
## 76     32.90%        316
## 77     29.60%        304
## 78     20.00%        334
## 79     32.30%         85
## 80     31.50%        116
## 81     18.60%        179
## 82     21.90%        342
## 83     16.60%        164
## 84     11.80%        398
## 85     20.60%        110
## 86     37.10%        162
## 87     40.10%        130
## 88     28.90%        282
## 89     21.70%        279
```

```
## 90     30.00%        233
## 91     30.60%        132
## 92     19.90%        374
## 93     21.40%        136
## 94     29.70%        239
## 95     -0.40%        402
## 96     21.50%        408
## 97     32.10%         19
## 98     43.40%        358
## 99     23.10%        404
## 100    15.10%        259
## 101    18.70%        253
## 102    25.50%        377
## 103    29.50%        389
## 104    24.60%        407
## 105    19.60%        325
## 106    19.10%        210
## 107    28.10%        395
## 108    30.50%        365
## 109    30.30%        184
## 110    28.90%        414
## 111    23.00%        197
## 112    21.80%        189
## 113    21.40%        280
## 114    45.40%         23
## 115    29.30%        171
## 116    47.60%        329
## 117    42.60%        134
## 118    31.70%        337
## 119    25.70%        306
## 120    17.30%        135
## 121    14.60%        284
## 122     9.70%        205
## 123    23.70%        378
## 124     2.70%        264
## 125    39.60%        138
## 126    30.10%        322
## 127     8.30%        363
## 128    20.00%        166
## 129    17.70%         92
## 130    21.40%        159
## 131    26.60%        312
## 132    34.20%        240
## 133     1.70%        391
## 134    45.00%        221
## 135    37.70%        269
## 136    25.80%         96
## 137    20.40%        237
## 138    43.10%         32
## 139     3.80%        331
## 140    16.50%         49
## 141     6.60%        412
## 142    36.00%         61
## 143    15.30%        125
```

```
## 144    25.40%        330
## 145    13.10%        371
## 146    35.00%        297
## 147    12.50%        177
## 148    26.40%         80
## 149    11.70%        353
## 150     7.90%        198
## 151    18.70%        305
## 152    41.30%        250
## 153    34.90%        220
## 154    34.30%         97
## 155    24.10%        266
## 156    35.80%        222
## 157    16.70%        224
## 158    30.00%        158
## 159    41.20%        215
## 160    25.40%        212
## 161    20.50%        277
## 162    22.80%        146
## 163    15.80%        262
## 164    19.20%        181
## 165     9.40%        364
## 166    55.00%        142
## 167    28.80%        214
## 168    32.40%        133
## 169    43.90%         25
## 170    31.10%        174
## 171    22.60%        394
## 172    21.50%         65
## 173    24.70%        351
## 174    24.80%        258
## 175    22.70%        298
## 176    35.10%        230
## 177    20.60%        319
## 178    19.70%        271
## 179    37.10%        267
## 180    16.30%        390
## 181    34.30%        376
## 182    10.40%        318
## 183    38.40%         76
## 184    25.20%        119
## 185    24.40%        188
## 186    27.10%        183
## 187    23.10%        145
## 188    24.30%        245
## 189    28.90%         55
## 190    27.60%        157
## 191    26.10%        317
## 192    36.70%        411
## 193    34.40%        176
## 194    13.80%        292
## 195     8.20%        343
## 196    19.80%        270
## 197    18.90%        217
```

```
## 198    19.60%        153
## 199     5.90%        382
## 200    23.60%        338
## 201    27.90%         78
## 202    21.30%        349
## 203    26.00%        409
## 204    17.40%        232
## 205    10.20%        324
## 206    23.80%        345
## 207    32.70%        247
## 208    29.50%        147
## 209    14.90%        283
## 210     6.20%        320
## 211    18.00%        286
## 212     9.40%        296
## 213    22.80%        122
## 214    14.90%        370
## 215    26.30%        302
## 216    23.80%        255
## 217    -1.60%        379
## 218    12.00%        246
## 219    33.20%        202
## 220    18.80%        108
## 221    14.50%        386
## 222    13.30%        381
## 223     9.70%        380
## 224    35.20%        361
## 225    21.20%        294
## 226    24.60%        192
## 227    63.40%        118
## 228 Manhattan  Manhattan
## 229    34.80%         31
## 230    36.90%        115
## 231    17.90%        124
## 232    28.40%        295
## 233    19.10%        150
## 234    18.70%        160
## 235    19.30%        102
## 236    27.20%        218
## 237    59.00%         95
## 238    46.40%        175
## 239    18.80%        121
## 240    18.60%         50
## 241    19.00%         34
## 242    10.50%        137
## 243    35.20%        281
## 244    30.50%        120
## 245    49.60%         15
## 246    39.40%         16
## 247    35.30%          4
## 248    30.60%        151
## 249    13.40%        362
## 250    21.80%         56
## 251     8.40%        352
```

```
## 252    18.10%        384
## 253    29.40%        140
## 254    15.30%        326
## 255    15.60%         48
## 256     7.00%        144
## 257    55.70%        193
## 258  1595.50%        156
## 259    -6.70%        163
## 260    63.00%        327
## 261     6.60%        185
## 262    39.60%         74
## 263    31.00%        225
## 264    46.90%        399
## 265    48.70%        104
## 266    59.60%         44
## 267    32.90%         63
## 268    46.70%         46
## 269    47.70%         71
## 270    63.40%        114
## 271    42.00%         72
## 272    49.30%        143
## 273    29.40%        203
## 274    32.70%         41
## 275    39.50%          3
## 276    55.70%         53
## 277    49.30%          8
## 278    45.40%          6
## 279    60.10%         13
## 280    76.90%         47
## 281    59.60%         69
## 282    41.60%         91
## 283    99.40%         38
## 284    52.00%         57
## 285    68.50%         94
## 286    56.80%         26
## 287    48.00%          7
## 288    61.90%         59
## 289    43.20%         54
## 290    76.40%         89
## 291    36.30%         22
## 292    39.10%        161
## 293    22.90%         28
## 294    30.20%         30
## 295    40.00%         86
## 296    54.00%         81
## 297    49.30%         99
## 298    35.40%         70
## 299    33.60%         17
## 300    33.90%        148
## 301    36.00%         40
## 302    31.20%         24
## 303    27.70%         77
## 304    23.90%        168
## 305    27.60%         75
```

```
## 306    51.50%         84
## 307    30.70%        336
## 308    52.40%         60
## 309    38.30%        276
## 310    48.00%         21
## 311    60.50%         36
## 312    56.00%        287
## 313    44.70%         83
## 314    37.80%         18
## 315    36.50%        113
## 316    26.50%        186
## 317    20.70%        199
## 318    66.50%         82
## 319    59.30%         11
## 320    52.40%        128
## 321    53.30%        291
## 322    35.00%         27
## 323    27.10%        200
## 324    10.80%        238
## 325    40.30%         98
## 326    77.90%        265
## 327    53.80%          5
## 328    63.80%          2
## 329    33.90%         39
## 330    14.60%        356
## 331    57.40%        129
## 332     6.30%        196
## 333    33.80%         12
## 334    56.60%         14
## 335    30.10%         58
## 336    23.80%        278
## 337    43.40%        107
## 338    58.50%        213
## 339    41.20%        289
## 340    44.80%        173
## 341    43.10%         35
## 342    52.00%        117
## 343    42.40%        123
## 344    52.60%          1
## 345    54.00%         90
## 346    52.10%        105
## 347    39.60%         20
## 348    90.50%        127
## 349   100.00%        324
## 350    Queens     Queens
## 351    16.90%         45
## 352    25.70%        406
## 353    12.50%        383
## 354    15.70%        103
## 355    22.00%        392
## 356     9.70%        397
## 357    16.10%        393
## 358    22.70%        187
## 359    19.10%        401
```

```
## 360    45.70%        139
## 361    29.50%        111
## 362    53.30%        182
## 363    31.40%        227
## 364    40.20%        340
## 365    44.90%        355
## 366    30.80%        154
## 367    27.30%        180
## 368    23.90%        106
## 369    24.10%        223
## 370    20.60%        101
## 371    19.50%        346
## 372    28.00%        195
## 373    28.80%        228
## 374    25.60%          9
## 375    30.80%        357
## 376     5.90%        350
## 377    29.00%        310
## 378    17.90%         67
## 379     9.50%        344
## 380    23.40%        373
## 381    14.90%         66
## 382   -14.60%        415
## 383    13.30%        418
## 384    37.90%        141
## 385    31.50%         93
## 386    39.10%        422
## 387    17.40%        410
## 388    12.10%        416
## 389    14.80%        420
## 390    11.70%        405
## 391    13.60%        396
## 392    15.80%        417
## 393    29.80%        421
## 394    30.30%        288
## 395    24.10%        423
## 396    30.70%        131
## 397    56.40%         52
## 398    19.50%        126
## 399     8.30%        328
## 400    27.30%         10
## 401    24.90%        308
## 402    31.00%         42
## 403    20.80%        254
## 404    22.30%         73
## 405    67.40%        332
## 406    47.60%        273
## 407     9.90%         33
## 408    23.10%         68
## 409    16.70%        300
## 410    18.60%         29
## 411    26.80%         51
## 412    38.30%        208
## 413    22.40%        335
```

```
## 414    18.90%        229
## 415    17.30%        231
## 416    21.50%        216
## 417    57.40%        109
## 418    40.00%         87
## 419    21.90%        201
## 420    20.50%        419
## 421    13.90%        372
## 422    24.60%        112
## 423    18.20%        315
## 424    25.50%         43
## 425    42.20%         88
## 426    11.30%        314
## 427    18.30%         62
## 428    27.50%         64
## 429     26.6%
## 430     11.2%
## 431     43.3%
## 432     25.7%
## 433
## 434     33.3%
## 435
```

```
str(MTA_df)
```

```
## 'data.frame':    435 obs. of  10 variables:
##  $ Station..alphabetical.by.borough.: chr  "The Bronx" "138 St-Grand Concourse" "149 St-Grand    Con
##  $ X2017                            : chr  "The Bronx" "1,036,746" "4,255,015" "8,596,506" ...
##  $ X2018                            : chr  "The Bronx" "944,598" "3,972,763" "8,392,290" ...
##  $ X2019                            : chr  "The Bronx" "1,035,878" "3,931,908" "8,254,928" ...
##  $ X2020                            : chr  "The Bronx" "371,408" "1,815,785" "3,221,651" ...
##  $ X2021                            : chr  "The Bronx" "656,866" "1,832,521" "4,077,604" ...
##  $ X2022                            : chr  "The Bronx" "766,610" "2,026,363" "5,023,193" ...
##  $ X2021.2022.Change                : chr  "The Bronx" "109,744" "193,842" "945,589" ...
##  $ X                                : chr  "The Bronx" "16.70%" "10.60%" "23.20%" ...
##  $ X2022.Rank                       : chr  "The Bronx" "333" "152" "37" ...
```

Cleaning and Tidying up the dataset

```
# Creating new column names
newcolumn <- c('Station', 2017, 2018, 2019, 2020, 2021, 2022, '2021 - 2022 Net Change',
                   '2021 - 2022 % Change', '2022 Rank')
colnames(MTA_df) <- newcolumn

# Finding borough rows
borough <- c('The Bronx', 'Brooklyn', 'Manhattan', 'Queens')

rowvalues <- c()

for(i in 1:length(borough)){
  rowvalues[i] <- rownames(MTA_df[which(MTA_df$'2017' == borough[i]),])
}
rowvalues
```

```
## [1] "1"   "70"  "228" "350"
```

Analyzing and creating visuals for the data

```
dfBronx <- MTA_df[2:69,]
dfBronx['Borough'] <- borough[1]

dfBrooklyn <- MTA_df[71:227,]
dfBrooklyn['Borough'] <- borough[2]

dfManhattan <- MTA_df[229:349,]
dfManhattan['Borough'] <- borough[3]

dfQueens <- MTA_df[351:dim(MTA_df)[1],]
dfQueens['Borough'] <- borough[4]

MTA_df2 <- rbind(dfBronx, dfBrooklyn, dfManhattan, dfQueens)

# Removing commas and transforming characters into integers
MTA_df2 <- MTA_df2 %>%
  mutate(x = droplevels(MTA_df2),
         '2017' = as.integer(str_remove_all(MTA_df2$'2017', ',')),
         '2018' = as.integer(str_remove_all(MTA_df2$'2018', ',')),
         '2019' = as.integer(str_remove_all(MTA_df2$'2019', ',')),
         '2020' = as.integer(str_remove_all(MTA_df2$'2020', ',')),
         '2021' = as.integer(str_remove_all(MTA_df2$'2021', ',')),
         '2022' = as.integer(str_remove_all(MTA_df2$'2022', ',')),
         '2021 - 2022 Net Change' = as.integer(str_remove_all(MTA_df2$'2021 - 2022 Net Change', ',')),
         '2021 - 2022 % Change' = as.numeric(str_remove_all(MTA_df2$'2021 - 2022 % Change', '%')),
         '2022 Rank' = as.integer(MTA_df2$'2022 Rank')) %>%
select(Borough, colnames(MTA_df2))
```

```
colnames2 <- c('Borough', 2017, 2018, 2019, 2020, 2021, 2022)

MTA_df3 <- MTA_df2  %>%
  select(colnames2)
```

```
## Warning: Using an external vector in selections was deprecated in tidyselect 1.1.0.
## i Please use `all_of()` or `any_of()` instead.
##   # Was:
##   data %>% select(colnames2)
##
##   # Now:
##   data %>% select(all_of(colnames2))
##
## See <https://tidyselect.r-lib.org/reference/faq-external-vector.html>.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

```
avgMTA <- MTA_df3 %>%
  pivot_longer(!Borough, names_to = 'Year', values_to = 'Ridership') %>%
  group_by(Borough, Year) %>%
  summarize(Avg_Ridership = mean(Ridership, na.rm = TRUE))
```

```
## `summarise()` has grouped output by 'Borough'. You can override using the
## `.groups` argument.
```

```
ggplot(data = avgMTA) +
  geom_bar(mapping = aes(x = Year, y = Avg_Ridership, fill = Borough), stat = 'identity') +
  facet_grid(~ Borough) +
  theme(axis.text.x = element_text(angle = 70, hjust = 1)) +
  labs(title = 'Average Riderhip from 2017 - 2022 by Borough')
```