

Milestone #2

Team 20

9/25/2021

Description of dataset

What is the data source? (1-2 sentences on where the data is coming from, dates included, etc.)

*Our data are coming from the CalEnviroScreen 3.0 dataset, and a Mortality dataset from 2009-2018.

How does the dataset relate to the group problem statement and question?

*Our data include statewide Particulate Matter (PM2.5) measurements on a zip code level. The mortality data include disease types, including Chronic Lower Respiratory Disease, which we will look to correlate between zip codes with critically high PM2.5 measurements and CLRD deaths in the years 2009-2018.

Import

*Use appropriate import function and package based on the type of file

*Utilize function arguments to control relevant components (i.e. change column types, column names, missing values, etc.)

*Document the import process

```
air_qual <- read_csv("~/PHW251_Fall2021/Team Project/air_qual.csv")

##
## -- Column specification -----
## cols(
##   'California County' = col_character(),
##   ZIP = col_double(),
##   'Avg PM2.5 Per ZIP' = col_double()
## )

mort_by_zip <- read_csv("~/PHW251_Fall2021/Team Project/mort_by_zip.csv")

## Warning: Missing column names filled in: 'X1' [1]

##
## -- Column specification -----
## cols(
##   X1 = col_double(),
##   Year = col_double(),
##   ZIP_Code = col_double(),
##   Geography_Type = col_character(),
##   Strata = col_character(),
##   Strata_Name = col_character(),
##   Cause = col_character(),
##   Cause_Desc = col_character(),
##   Count = col_double(),
##   Annotation_Code = col_double(),
##   Annotation_Desc = col_character()
## )

#change to snakecase
air_qual <- rename_with(air_qual, ~ tolower(gsub(" ", "_", .x, fixed=TRUE)))
mort_by_zip <- rename_with(mort_by_zip, ~ tolower(gsub(" ", "_", .x, fixed=TRUE)))

#remove column x1
mort_by_zip <- select(mort_by_zip, !x1)

#filter by CLD
mort_by_zip <- filter(mort_by_zip, cause=="CLD")

#keep rows from 2009-2018
mort_by_zip <- filter(mort_by_zip, between(year,2009,2018) )
```

Identify data types for 5+ data elements/columns/variables

*Identify 5+ data elements required for your specified scenario. If <5 elements are required to complete the analysis, please choose additional variables of interest in the data set to explore in this milestone.

*Utilize functions or resources in RStudio to determine the types of each data element (i.e. character, numeric, factor)

*Identify the desired type/format for each variable—will you need to convert any columns to numeric or another type?

```
#5 data elements required
```

```
#mort_by_zip$cause
```

```
#mort_by_zip$year
```

```
#mort_by_zip$zip_code
```

```
#air_qual$avg_pm2.5_per_zip
```

```
#air_qual$zip
```

```
#examine structure of dataset
```

```
str(mort_by_zip)
```

```
## tibble [26,640 x 10] (S3: tbl_df/tbl/data.frame)
```

```
## $ year : num [1:26640] 2009 2009 2009 2009 2009 ...
```

```
## $ zip_code : num [1:26640] 90001 90002 90003 90004 90005 ...
```

```
## $ geography_type : chr [1:26640] "Residence" "Residence" "Residence" "Residence" ...
```

```
## $ strata : chr [1:26640] "Total Population" "Total Population" "Total Population" "Total Population" ...
```

```
## $ strata_name : chr [1:26640] "Total Population" "Total Population" "Total Population" "Total Population" ...
```

```
## $ cause : chr [1:26640] "CLD" "CLD" "CLD" "CLD" ...
```

```
## $ cause_desc : chr [1:26640] "Chronic lower respiratory diseases" "Chronic lower respiratory diseases" ...
```

```
## $ count : num [1:26640] NA NA 18 NA NA NA NA 15 0 NA ...
```

```
## $ annotation_code: num [1:26640] 1 1 NA 1 1 1 1 NA NA 1 ...
```

```
## $ annotation_desc: chr [1:26640] "Cell suppressed for small numbers" "Cell suppressed for small numbers" ...
```

```
str(air_qual)
```

```
## spec_tbl_df [1,377 x 3] (S3: spec_tbl_df/tbl_df/tbl/data.frame)
```

```
## $ california_county: chr [1:1377] "Alameda" "Alameda" "Alameda" "Alameda" ...
```

```
## $ zip : num [1:1377] 94501 94502 94536 94538 94539 ...
```

```
## $ avg_pm2.5_per_zip: num [1:1377] 8.7 8.7 8.94 9.44 9.46 ...
```

```
## - attr(*, "spec")=
```

```
## .. cols(
```

```
## .. 'California County' = col_character(),
```

```
## .. ZIP = col_double(),
```

```
## .. 'Avg PM2.5 Per ZIP' = col_double()
```

```
## .. )
```

```
#number of rows and columns
```

```
nrow(air_qual)
```

```
## [1] 1377
```

```
ncol(air_qual)
```

```
## [1] 3
```

```
nrow(mort_by_zip)
```

```
## [1] 26640
```

```
ncol(mort_by_zip)

## [1] 10
#type/class of object
class(air_qual)

## [1] "spec_tbl_df" "tbl_df"      "tbl"          "data.frame"
typeof(air_qual)

## [1] "list"
class(mort_by_zip)

## [1] "tbl_df"      "tbl"          "data.frame"
typeof(mort_by_zip)

## [1] "list"
```

Provide a basic description of the 5+ data elements

Numeric: mean, median, range Character: unique values/categories *Or any other descriptives that will be useful to the analysis

```
#summary - mean/median/quartiles
```

```
summary(mort_by_zip$cause)
```

```
##      Length      Class      Mode  
##      26640 character character
```

```
summary(mort_by_zip$year)
```

```
##      Min. 1st Qu.  Median      Mean 3rd Qu.      Max.  
##      2009      2011      2014      2014      2016      2018
```

```
summary(mort_by_zip$zip_code)
```

```
##      Min. 1st Qu.  Median      Mean 3rd Qu.      Max.  
##      90001      92111      93534      93454      95135      96162
```

```
summary(air_qual$avg_pm2.5_per_zip)
```

```
##      Min. 1st Qu.  Median      Mean 3rd Qu.      Max.      NA's  
##      1.651      7.860      9.536      9.781      11.840      19.309          7
```

```
summary(air_qual$zip)
```

```
##      Min. 1st Qu.  Median      Mean 3rd Qu.      Max.  
##          32      92040      93402      92832      95110      96161
```

```
#unique values
```

```
unique(mort_by_zip$cause)
```

```
## [1] "CLD"
```

```
unique(mort_by_zip$year)
```

```
## [1] 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
```

```
unique(mort_by_zip$zip_code)
```

```
##      [1] 90001 90002 90003 90004 90005 90006 90007 90008 90009 90010 90011 90012  
##      [13] 90013 90014 90015 90016 90017 90018 90019 90020 90021 90022 90023 90024  
##      [25] 90025 90026 90027 90028 90029 90030 90031 90032 90033 90034 90035 90036  
##      [37] 90037 90038 90039 90040 90041 90042 90043 90044 90045 90046 90047 90048  
##      [49] 90049 90050 90051 90052 90053 90054 90055 90056 90057 90058 90059 90060  
##      [61] 90061 90062 90063 90064 90065 90066 90067 90068 90069 90070 90071 90072  
##      [73] 90073 90074 90075 90076 90077 90078 90079 90080 90081 90082 90083 90084  
##      [85] 90086 90087 90088 90089 90090 90091 90093 90094 90095 90096 90099 90101  
##      [97] 90102 90103 90189 90201 90202 90209 90210 90211 90212 90213 90220 90221  
##     [109] 90222 90223 90224 90230 90231 90232 90233 90239 90240 90241 90242 90245  
##     [121] 90247 90248 90249 90250 90251 90254 90255 90260 90261 90262 90263 90264  
##     [133] 90265 90266 90267 90270 90272 90274 90275 90277 90278 90280 90290 90291  
##     [145] 90292 90293 90294 90295 90296 90301 90302 90303 90304 90305 90306 90307  
##     [157] 90308 90309 90310 90311 90312 90313 90397 90398 90401 90402 90403 90404  
##     [169] 90405 90406 90407 90408 90409 90410 90411 90501 90502 90503 90504 90505  
##     [181] 90506 90507 90508 90509 90510 90601 90602 90603 90604 90605 90606 90607  
##     [193] 90608 90609 90610 90612 90620 90621 90622 90623 90624 90630 90631 90632  
##     [205] 90633 90637 90638 90639 90640 90650 90651 90652 90659 90660 90661 90662
```

| | | | | | | | | | | | | | |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ## | [217] | 90670 | 90671 | 90680 | 90701 | 90702 | 90703 | 90704 | 90706 | 90707 | 90710 | 90711 | 90712 |
| ## | [229] | 90713 | 90714 | 90715 | 90716 | 90717 | 90720 | 90721 | 90723 | 90731 | 90732 | 90733 | 90734 |
| ## | [241] | 90740 | 90742 | 90743 | 90744 | 90745 | 90746 | 90747 | 90748 | 90749 | 90755 | 90801 | 90802 |
| ## | [253] | 90803 | 90804 | 90805 | 90806 | 90807 | 90808 | 90809 | 90810 | 90813 | 90814 | 90815 | 90822 |
| ## | [265] | 90831 | 90832 | 90833 | 90834 | 90835 | 90840 | 90842 | 90844 | 90845 | 90846 | 90847 | 90848 |
| ## | [277] | 90853 | 90888 | 90895 | 90899 | 91001 | 91003 | 91006 | 91007 | 91008 | 91009 | 91010 | 91011 |
| ## | [289] | 91012 | 91016 | 91017 | 91020 | 91021 | 91023 | 91024 | 91025 | 91030 | 91031 | 91040 | 91041 |
| ## | [301] | 91042 | 91043 | 91046 | 91066 | 91077 | 91101 | 91102 | 91103 | 91104 | 91105 | 91106 | 91107 |
| ## | [313] | 91108 | 91109 | 91110 | 91114 | 91115 | 91116 | 91117 | 91118 | 91121 | 91123 | 91124 | 91125 |
| ## | [325] | 91126 | 91129 | 91131 | 91182 | 91184 | 91185 | 91188 | 91189 | 91191 | 91199 | 91201 | 91202 |
| ## | [337] | 91203 | 91204 | 91205 | 91206 | 91207 | 91208 | 91209 | 91210 | 91214 | 91221 | 91222 | 91224 |
| ## | [349] | 91225 | 91226 | 91301 | 91302 | 91303 | 91304 | 91305 | 91306 | 91307 | 91308 | 91309 | 91310 |
| ## | [361] | 91311 | 91313 | 91316 | 91319 | 91320 | 91321 | 91322 | 91324 | 91325 | 91326 | 91327 | 91328 |
| ## | [373] | 91329 | 91330 | 91331 | 91333 | 91334 | 91335 | 91337 | 91340 | 91341 | 91342 | 91343 | 91344 |
| ## | [385] | 91345 | 91346 | 91350 | 91351 | 91352 | 91353 | 91354 | 91355 | 91356 | 91357 | 91358 | 91359 |
| ## | [397] | 91360 | 91361 | 91362 | 91363 | 91364 | 91365 | 91367 | 91371 | 91372 | 91376 | 91377 | 91380 |
| ## | [409] | 91381 | 91382 | 91383 | 91384 | 91385 | 91386 | 91387 | 91388 | 91390 | 91392 | 91393 | 91394 |
| ## | [421] | 91395 | 91396 | 91399 | 91401 | 91402 | 91403 | 91404 | 91405 | 91406 | 91407 | 91408 | 91409 |
| ## | [433] | 91410 | 91411 | 91412 | 91413 | 91416 | 91423 | 91426 | 91436 | 91470 | 91482 | 91495 | 91496 |
| ## | [445] | 91497 | 91499 | 91501 | 91502 | 91503 | 91504 | 91505 | 91506 | 91507 | 91508 | 91510 | 91521 |
| ## | [457] | 91522 | 91523 | 91526 | 91601 | 91602 | 91603 | 91604 | 91605 | 91606 | 91607 | 91608 | 91609 |
| ## | [469] | 91610 | 91611 | 91612 | 91614 | 91615 | 91616 | 91617 | 91618 | 91701 | 91702 | 91706 | 91708 |
| ## | [481] | 91709 | 91710 | 91711 | 91714 | 91715 | 91716 | 91722 | 91723 | 91724 | 91729 | 91730 | 91731 |
| ## | [493] | 91732 | 91733 | 91734 | 91735 | 91737 | 91739 | 91740 | 91741 | 91743 | 91744 | 91745 | 91746 |
| ## | [505] | 91747 | 91748 | 91749 | 91750 | 91752 | 91754 | 91755 | 91756 | 91758 | 91759 | 91761 | 91762 |
| ## | [517] | 91763 | 91764 | 91765 | 91766 | 91767 | 91768 | 91769 | 91770 | 91771 | 91772 | 91773 | 91775 |
| ## | [529] | 91776 | 91778 | 91780 | 91784 | 91785 | 91786 | 91788 | 91789 | 91790 | 91791 | 91792 | 91793 |
| ## | [541] | 91795 | 91797 | 91798 | 91799 | 91801 | 91802 | 91803 | 91804 | 91841 | 91896 | 91899 | 91901 |
| ## | [553] | 91902 | 91903 | 91905 | 91906 | 91908 | 91909 | 91910 | 91911 | 91912 | 91913 | 91914 | 91915 |
| ## | [565] | 91916 | 91917 | 91921 | 91931 | 91932 | 91933 | 91934 | 91935 | 91941 | 91942 | 91943 | 91944 |
| ## | [577] | 91945 | 91946 | 91947 | 91948 | 91950 | 91951 | 91962 | 91963 | 91976 | 91977 | 91978 | 91979 |
| ## | [589] | 91980 | 91987 | 91990 | 92003 | 92004 | 92007 | 92008 | 92009 | 92010 | 92011 | 92013 | 92014 |
| ## | [601] | 92018 | 92019 | 92020 | 92021 | 92022 | 92023 | 92024 | 92025 | 92026 | 92027 | 92028 | 92029 |
| ## | [613] | 92030 | 92033 | 92036 | 92037 | 92038 | 92039 | 92040 | 92046 | 92049 | 92051 | 92052 | 92054 |
| ## | [625] | 92055 | 92056 | 92057 | 92058 | 92059 | 92060 | 92061 | 92064 | 92065 | 92066 | 92067 | 92068 |
| ## | [637] | 92069 | 92070 | 92071 | 92072 | 92074 | 92075 | 92078 | 92079 | 92081 | 92082 | 92083 | 92084 |
| ## | [649] | 92085 | 92086 | 92088 | 92090 | 92091 | 92092 | 92093 | 92096 | 92101 | 92102 | 92103 | 92104 |
| ## | [661] | 92105 | 92106 | 92107 | 92108 | 92109 | 92110 | 92111 | 92112 | 92113 | 92114 | 92115 | 92116 |
| ## | [673] | 92117 | 92118 | 92119 | 92120 | 92121 | 92122 | 92123 | 92124 | 92126 | 92127 | 92128 | 92129 |
| ## | [685] | 92130 | 92131 | 92132 | 92133 | 92134 | 92135 | 92136 | 92137 | 92138 | 92139 | 92140 | 92142 |
| ## | [697] | 92143 | 92145 | 92147 | 92149 | 92150 | 92152 | 92153 | 92154 | 92155 | 92158 | 92159 | 92160 |
| ## | [709] | 92161 | 92162 | 92163 | 92164 | 92165 | 92166 | 92167 | 92168 | 92169 | 92170 | 92171 | 92172 |
| ## | [721] | 92173 | 92174 | 92175 | 92176 | 92177 | 92178 | 92179 | 92182 | 92184 | 92186 | 92187 | 92190 |
| ## | [733] | 92191 | 92192 | 92193 | 92194 | 92195 | 92196 | 92197 | 92198 | 92199 | 92201 | 92202 | 92203 |
| ## | [745] | 92210 | 92211 | 92220 | 92222 | 92223 | 92225 | 92226 | 92227 | 92230 | 92231 | 92232 | 92233 |
| ## | [757] | 92234 | 92235 | 92236 | 92239 | 92240 | 92241 | 92242 | 92243 | 92244 | 92247 | 92248 | 92249 |
| ## | [769] | 92250 | 92251 | 92252 | 92253 | 92254 | 92255 | 92256 | 92257 | 92258 | 92259 | 92260 | 92261 |
| ## | [781] | 92262 | 92263 | 92264 | 92266 | 92267 | 92268 | 92270 | 92273 | 92274 | 92275 | 92276 | 92277 |
| ## | [793] | 92278 | 92280 | 92281 | 92282 | 92283 | 92284 | 92285 | 92286 | 92292 | 92301 | 92304 | 92305 |
| ## | [805] | 92307 | 92308 | 92309 | 92310 | 92311 | 92312 | 92313 | 92314 | 92315 | 92316 | 92317 | 92318 |
| ## | [817] | 92320 | 92321 | 92322 | 92323 | 92324 | 92325 | 92326 | 92327 | 92328 | 92329 | 92331 | 92332 |
| ## | [829] | 92333 | 92334 | 92335 | 92336 | 92337 | 92338 | 92339 | 92340 | 92341 | 92342 | 92344 | 92345 |
| ## | [841] | 92346 | 92347 | 92350 | 92352 | 92354 | 92356 | 92357 | 92358 | 92359 | 92363 | 92364 | 92365 |
| ## | [853] | 92366 | 92368 | 92369 | 92371 | 92372 | 92373 | 92374 | 92375 | 92376 | 92377 | 92378 | 92382 |

| | | | | | | | | | | | | | |
|----|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ## | [865] | 92384 | 92385 | 92386 | 92389 | 92391 | 92392 | 92393 | 92394 | 92395 | 92397 | 92398 | 92399 |
| ## | [877] | 92401 | 92402 | 92403 | 92404 | 92405 | 92406 | 92407 | 92408 | 92410 | 92411 | 92412 | 92413 |
| ## | [889] | 92414 | 92415 | 92418 | 92423 | 92424 | 92427 | 92501 | 92502 | 92503 | 92504 | 92505 | 92506 |
| ## | [901] | 92507 | 92508 | 92509 | 92513 | 92514 | 92515 | 92516 | 92517 | 92518 | 92519 | 92521 | 92522 |
| ## | [913] | 92530 | 92531 | 92532 | 92536 | 92539 | 92543 | 92544 | 92545 | 92546 | 92548 | 92549 | 92551 |
| ## | [925] | 92552 | 92553 | 92554 | 92555 | 92556 | 92557 | 92561 | 92562 | 92563 | 92564 | 92567 | 92570 |
| ## | [937] | 92571 | 92572 | 92581 | 92582 | 92583 | 92584 | 92585 | 92586 | 92587 | 92589 | 92590 | 92591 |
| ## | [949] | 92592 | 92593 | 92595 | 92596 | 92599 | 92602 | 92603 | 92604 | 92605 | 92606 | 92607 | 92609 |
| ## | [961] | 92610 | 92612 | 92614 | 92615 | 92616 | 92617 | 92618 | 92619 | 92620 | 92623 | 92624 | 92625 |
| ## | [973] | 92626 | 92627 | 92628 | 92629 | 92630 | 92637 | 92646 | 92647 | 92648 | 92649 | 92650 | 92651 |
| ## | [985] | 92652 | 92653 | 92654 | 92655 | 92656 | 92657 | 92658 | 92659 | 92660 | 92661 | 92662 | 92663 |
| ## | [997] | 92672 | 92673 | 92674 | 92675 | 92676 | 92677 | 92678 | 92679 | 92683 | 92684 | 92685 | 92688 |
| ## | [1009] | 92690 | 92691 | 92692 | 92693 | 92694 | 92697 | 92698 | 92701 | 92702 | 92703 | 92704 | 92705 |
| ## | [1021] | 92706 | 92707 | 92708 | 92709 | 92710 | 92711 | 92712 | 92725 | 92728 | 92735 | 92780 | 92781 |
| ## | [1033] | 92782 | 92799 | 92801 | 92802 | 92803 | 92804 | 92805 | 92806 | 92807 | 92808 | 92809 | 92811 |
| ## | [1045] | 92812 | 92814 | 92815 | 92816 | 92817 | 92821 | 92822 | 92823 | 92825 | 92831 | 92832 | 92833 |
| ## | [1057] | 92834 | 92835 | 92836 | 92837 | 92838 | 92840 | 92841 | 92842 | 92843 | 92844 | 92845 | 92846 |
| ## | [1069] | 92850 | 92856 | 92857 | 92859 | 92860 | 92861 | 92862 | 92863 | 92864 | 92865 | 92866 | 92867 |
| ## | [1081] | 92868 | 92869 | 92870 | 92871 | 92877 | 92878 | 92879 | 92880 | 92881 | 92882 | 92883 | 92885 |
| ## | [1093] | 92886 | 92887 | 92899 | 93001 | 93002 | 93003 | 93004 | 93005 | 93006 | 93007 | 93009 | 93010 |
| ## | [1105] | 93011 | 93012 | 93013 | 93014 | 93015 | 93016 | 93020 | 93021 | 93022 | 93023 | 93024 | 93030 |
| ## | [1117] | 93031 | 93032 | 93033 | 93034 | 93035 | 93036 | 93040 | 93041 | 93042 | 93043 | 93044 | 93060 |
| ## | [1129] | 93061 | 93062 | 93063 | 93064 | 93065 | 93066 | 93067 | 93093 | 93094 | 93099 | 93101 | 93102 |
| ## | [1141] | 93103 | 93105 | 93106 | 93107 | 93108 | 93109 | 93110 | 93111 | 93116 | 93117 | 93118 | 93120 |
| ## | [1153] | 93121 | 93130 | 93140 | 93150 | 93160 | 93190 | 93199 | 93201 | 93202 | 93203 | 93204 | 93205 |
| ## | [1165] | 93206 | 93207 | 93208 | 93210 | 93212 | 93215 | 93216 | 93218 | 93219 | 93220 | 93221 | 93222 |
| ## | [1177] | 93223 | 93224 | 93225 | 93226 | 93227 | 93230 | 93232 | 93234 | 93235 | 93237 | 93238 | 93239 |
| ## | [1189] | 93240 | 93241 | 93242 | 93243 | 93244 | 93245 | 93246 | 93247 | 93249 | 93250 | 93251 | 93252 |
| ## | [1201] | 93254 | 93255 | 93256 | 93257 | 93258 | 93260 | 93261 | 93262 | 93263 | 93265 | 93266 | 93267 |
| ## | [1213] | 93268 | 93270 | 93271 | 93272 | 93274 | 93275 | 93276 | 93277 | 93278 | 93279 | 93280 | 93282 |
| ## | [1225] | 93283 | 93285 | 93286 | 93287 | 93290 | 93291 | 93292 | 93301 | 93302 | 93303 | 93304 | 93305 |
| ## | [1237] | 93306 | 93307 | 93308 | 93309 | 93311 | 93312 | 93313 | 93314 | 93380 | 93381 | 93382 | 93383 |
| ## | [1249] | 93384 | 93385 | 93386 | 93387 | 93388 | 93389 | 93390 | 93401 | 93402 | 93403 | 93405 | 93406 |
| ## | [1261] | 93407 | 93408 | 93409 | 93410 | 93412 | 93420 | 93421 | 93422 | 93423 | 93424 | 93426 | 93427 |
| ## | [1273] | 93428 | 93429 | 93430 | 93432 | 93433 | 93434 | 93435 | 93436 | 93437 | 93438 | 93440 | 93441 |
| ## | [1285] | 93442 | 93443 | 93444 | 93445 | 93446 | 93447 | 93448 | 93449 | 93450 | 93451 | 93452 | 93453 |
| ## | [1297] | 93454 | 93455 | 93456 | 93457 | 93458 | 93460 | 93461 | 93463 | 93464 | 93465 | 93475 | 93483 |
| ## | [1309] | 93501 | 93502 | 93504 | 93505 | 93510 | 93512 | 93513 | 93514 | 93515 | 93516 | 93517 | 93518 |
| ## | [1321] | 93519 | 93522 | 93523 | 93524 | 93526 | 93527 | 93528 | 93529 | 93530 | 93531 | 93532 | 93534 |
| ## | [1333] | 93535 | 93536 | 93539 | 93541 | 93542 | 93543 | 93544 | 93545 | 93546 | 93549 | 93550 | 93551 |
| ## | [1345] | 93552 | 93553 | 93554 | 93555 | 93556 | 93558 | 93560 | 93561 | 93562 | 93563 | 93581 | 93584 |
| ## | [1357] | 93586 | 93590 | 93591 | 93592 | 93596 | 93599 | 93601 | 93602 | 93603 | 93604 | 93605 | 93606 |
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## [15] 9.536303 5.931677 7.440405 8.278764 9.117123 8.817709 8.218881
## [22] 9.452467 9.489728 6.138975 5.001770 7.489176 5.677884 5.774692
## [29] 8.632865 5.224033 7.859585 6.017179 7.021225 7.999311 7.901502
## [36] 8.659837 7.891829 8.362600 8.348627 8.458413 8.139038 8.578178
## [43] 8.418491 7.935799 3.821626 3.667788 6.283598 6.182866 8.138124
## [50] 5.512548 6.701693 4.301868 5.369389 12.360000 14.315000 16.240000
## [57] 13.750000 15.820000 15.400000 14.980909 11.825000 14.290000 10.370000
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| | | | | | | | | |
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| ## | [113] | 6.652451 | 9.506219 | 13.310000 | 17.080000 | 16.886154 | 15.240000 | 16.800000 |
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| ## | [162] | 10.121454 | 12.110000 | 11.150000 | 11.930000 | 11.816667 | 11.945000 | 11.770000 |
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| ## | [197] | 10.251566 | 11.245000 | 11.057634 | 10.986000 | 9.884842 | 9.901920 | 9.703975 |
| ## | [204] | 10.204193 | 8.518295 | 9.489728 | 8.697944 | 11.336000 | 10.765294 | 11.525000 |
| ## | [211] | 12.134000 | 11.920769 | 11.177692 | 11.234706 | 12.260000 | 11.315000 | 11.533077 |
| ## | [218] | 12.008000 | 12.020000 | 11.682500 | 11.515455 | 11.510000 | 12.096667 | 12.703333 |
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| ## | [253] | 6.462319 | 8.349693 | 5.970590 | 7.860376 | 7.767370 | 6.830716 | 6.891073 |
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| ## | [267] | 5.062439 | 5.068233 | 4.818662 | 1.651081 | 1.905711 | 2.438501 | 6.556440 |
| ## | [274] | 5.204780 | 5.151259 | 4.715737 | 4.184385 | 6.478947 | 6.364434 | 7.857752 |
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| ## | [288] | 11.163333 | 8.757827 | 9.326713 | 8.977397 | 9.047260 | 10.580000 | 10.553750 |
| ## | [295] | 10.454000 | 10.440000 | 10.930000 | 10.332317 | 11.116667 | 10.475000 | 10.730000 |
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| ## | [379] | 6.811635 | 7.081108 | 7.440405 | 6.445417 | 6.183105 | 7.008671 | 7.929448 |
| ## | [386] | 13.010000 | 7.835629 | 12.942500 | 13.646000 | 7.590112 | 6.340723 | 7.704615 |
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## [37] 94619 94621 94702 94703 94704 94705 94706 94707 94708 94709 94710 94720
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## [61] 95938 95942 95948 95954 95965 95966 95969 95973 95222 95223 95228 95246
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