Playground

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Playground

```
require(gtrendsR)
```

```
## Loading required package: gtrendsR
```

```
require(ggplot2)
```

```
## Loading required package: ggplot2
```

```
require(dplyr)
```

```
## Loading required package: dplyr
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
require(ggmap)
```

```
## Loading required package: ggmap
```

Making Dataframes

This gives us a master dataframe of search frequencies of "depression" over the past 12 months in the US which relate for sure to mental health. We can take different dataframes using "$": see the dataframe for details.

```
trend<-gtrends("rehab",c("US"),time="today 12-m",category=437)
trend
```

```
## $interest_over_time
##          date hits keyword geo gprop category
## 1  2016-11-06   58   rehab  US   web      437
## 2  2016-11-13   59   rehab  US   web      437
## 3  2016-11-20  100   rehab  US   web      437
## 4  2016-11-27   71   rehab  US   web      437
## 5  2016-12-04   78   rehab  US   web      437
## 6  2016-12-11   64   rehab  US   web      437
## 7  2016-12-18   33   rehab  US   web      437
## 8  2016-12-25   54   rehab  US   web      437
## 9  2017-01-01   55   rehab  US   web      437
## 10 2017-01-08   75   rehab  US   web      437
```

```
## 11 2017-01-15   71   rehab  US   web      437
## 12 2017-01-22   81   rehab  US   web      437
## 13 2017-01-29   70   rehab  US   web      437
## 14 2017-02-05   69   rehab  US   web      437
## 15 2017-02-12   55   rehab  US   web      437
## 16 2017-02-19   48   rehab  US   web      437
## 17 2017-02-26   56   rehab  US   web      437
## 18 2017-03-05   67   rehab  US   web      437
## 19 2017-03-12   69   rehab  US   web      437
## 20 2017-03-19   59   rehab  US   web      437
## 21 2017-03-26   58   rehab  US   web      437
## 22 2017-04-02   40   rehab  US   web      437
## 23 2017-04-09   61   rehab  US   web      437
## 24 2017-04-16   45   rehab  US   web      437
## 25 2017-04-23   22   rehab  US   web      437
## 26 2017-04-30   81   rehab  US   web      437
## 27 2017-05-07   42   rehab  US   web      437
## 28 2017-05-14   52   rehab  US   web      437
## 29 2017-05-21   60   rehab  US   web      437
## 30 2017-05-28   45   rehab  US   web      437
## 31 2017-06-04   60   rehab  US   web      437
## 32 2017-06-11   68   rehab  US   web      437
## 33 2017-06-18   51   rehab  US   web      437
## 34 2017-06-25   42   rehab  US   web      437
## 35 2017-07-02   21   rehab  US   web      437
## 36 2017-07-09   69   rehab  US   web      437
## 37 2017-07-16   45   rehab  US   web      437
## 38 2017-07-23   36   rehab  US   web      437
## 39 2017-07-30   67   rehab  US   web      437
## 40 2017-08-06   31   rehab  US   web      437
## 41 2017-08-13   55   rehab  US   web      437
## 42 2017-08-20   50   rehab  US   web      437
## 43 2017-08-27   57   rehab  US   web      437
## 44 2017-09-03   67   rehab  US   web      437
## 45 2017-09-10   51   rehab  US   web      437
## 46 2017-09-17   74   rehab  US   web      437
## 47 2017-09-24   67   rehab  US   web      437
## 48 2017-10-01   55   rehab  US   web      437
## 49 2017-10-08   63   rehab  US   web      437
## 50 2017-10-15   52   rehab  US   web      437
## 51 2017-10-22   55   rehab  US   web      437
## 52 2017-10-29   77   rehab  US   web      437
##
## $interest_by_region
##                location hits keyword geo gprop
## 1            New Mexico  100   rehab  US   web
## 2              Nebraska   90   rehab  US   web
## 3               Wyoming   89   rehab  US   web
## 4              New York   77   rehab  US   web
## 5          Pennsylvania   73   rehab  US   web
## 6               Arizona   69   rehab  US   web
## 7                 Maine   65   rehab  US   web
## 8               Georgia   60   rehab  US   web
## 9          South Dakota   59   rehab  US   web
```

```
## 10          Connecticut   56   rehab  US   web
## 11             Arkansas   56   rehab  US   web
## 12             Maryland   54   rehab  US   web
## 13           California   53   rehab  US   web
## 14                 Iowa   52   rehab  US   web
## 15            Tennessee   52   rehab  US   web
## 16              Florida   51   rehab  US   web
## 17              Alabama   50   rehab  US   web
## 18              Montana   49   rehab  US   web
## 19         Rhode Island   49   rehab  US   web
## 20                 Utah   46   rehab  US   web
## 21       South Carolina   45   rehab  US   web
## 22             Delaware   45   rehab  US   web
## 23              Indiana   45   rehab  US   web
## 24                Texas   45   rehab  US   web
## 25             Colorado   45   rehab  US   web
## 26        New Hampshire   44   rehab  US   web
## 27             Michigan   42   rehab  US   web
## 28        Massachusetts   41   rehab  US   web
## 29          Mississippi   40   rehab  US   web
## 30             Missouri   37   rehab  US   web
## 31               Nevada   37   rehab  US   web
## 32       North Carolina   35   rehab  US   web
## 33             Virginia   33   rehab  US   web
## 34        West Virginia   32   rehab  US   web
## 35            Louisiana   32   rehab  US   web
## 36           New Jersey   31   rehab  US   web
## 37             Illinois   31   rehab  US   web
## 38               Hawaii   28   rehab  US   web
## 39               Kansas   27   rehab  US   web
## 40            Wisconsin   26   rehab  US   web
## 41            Minnesota   24   rehab  US   web
## 42 District of Columbia   24   rehab  US   web
## 43             Kentucky   22   rehab  US   web
## 44           Washington   22   rehab  US   web
## 45                 Ohio   20   rehab  US   web
## 46               Oregon   17   rehab  US   web
## 47             Oklahoma   14   rehab  US   web
##
## $interest_by_dma
##                                                location hits keyword
## 1                                           Helena MT  100   rehab
## 2                                         Victoria TX   77   rehab
## 3                                           Laredo TX   41   rehab
## 4                                         Lubbock TX   38   rehab
## 5                              Idaho Falls-Pocatello ID   32   rehab
## 6                 Quincy IL-Hannibal MO-Keokuk IA   30   rehab
## 7                                         Jackson TN   28   rehab
## 8                              Clarksburg-Weston WV   28   rehab
## 9                                     Watertown NY   26   rehab
## 10                                       Bend OR   25   rehab
## 11                                 Lake Charles LA   24   rehab
## 12                                Butte-Bozeman MT   24   rehab
## 13                                   Rapid City SD   24   rehab
```

```
## 14                                      Lafayette IN   24   rehab
## 15                          Columbia-Jefferson City MO   24   rehab
## 16                                     Gainesville FL   24   rehab
## 17                                      Evansville IN   24   rehab
## 18                                Abilene-Sweetwater TX   24   rehab
## 19                                     Harrisonburg VA   22   rehab
## 20                                      Terre Haute IN   22   rehab
## 21                                        Amarillo TX   19   rehab
## 22                                  Yuma AZ-El Centro CA   19   rehab
## 23                                          Albany GA   18   rehab
## 24                       Columbus-Tupelo-West Point MS   18   rehab
## 25                     Huntsville-Decatur (Florence) AL   18   rehab
## 26                                South Bend-Elkhart IN   17   rehab
## 27                                       Binghamton NY   17   rehab
## 28                                           Bangor ME   17   rehab
## 29                                       Sioux City IA   17   rehab
## 30                                    Ft. Myers-Naples FL   16   rehab
## 31                                Beaumont-Port Arthur TX   16   rehab
## 32                                         Columbus GA   15   rehab
## 33                                  Duluth MN-Superior WI   15   rehab
## 34                 Minot-Bismarck-Dickinson(Williston) ND   15   rehab
## 35                           Tallahassee FL-Thomasville GA   15   rehab
## 36                Harlingen-Weslaco-Brownsville-McAllen TX   15   rehab
## 37                                     Palm Springs CA   14   rehab
## 38                                  Wausau-Rhinelander WI   14   rehab
## 39                                         El Paso TX   14   rehab
## 40                                       Rockford IL   13   rehab
## 41                                   Charlottesville VA   13   rehab
## 42                                           Macon GA   13   rehab
## 43                                     Bakersfield CA   13   rehab
## 44                                         Topeka KS   12   rehab
## 45                               Little Rock-Pine Bluff AR   12   rehab
## 46                                    Johnstown-Altoona PA   12   rehab
## 47                                     Chico-Redding CA   11   rehab
## 48                        Greenville-New Bern-Washington NC   11   rehab
## 49                                Traverse City-Cadillac MI   11   rehab
## 50                                       Rochester NY   11   rehab
## 51                           Lincoln & Hastings-Kearney NE   11   rehab
## 52                                        Syracuse NY   11   rehab
## 53                                     Baton Rouge LA   10   rehab
## 54                                      Wilmington NC   10   rehab
## 55                                La Crosse-Eau Claire WI   10   rehab
## 56                                         Lansing MI   10   rehab
## 57                                      Youngstown OH   10   rehab
## 58                                      San Antonio TX   10   rehab
## 59                                      Springfield MO   10   rehab
## 60                                           Dayton OH   10   rehab
## 61                                       Knoxville TN   10   rehab
## 62                                       Milwaukee WI   10   rehab
## 63            Santa Barbara-Santa Maria-San Luis Obispo CA   10   rehab
## 64                                        Columbia SC    9   rehab
## 65                                        Memphis TN    9   rehab
## 66                     Champaign & Springfield-Decatur IL    9   rehab
## 67            Cedar Rapids-Waterloo-Iowa City & Dubuque IA    9   rehab
```

```
## 68                                        Tri-Cities TN-VA    9   rehab
## 69                                             Augusta GA    8   rehab
## 70                                 Flint-Saginaw-Bay City MI    8   rehab
## 71                                               Omaha NE    8   rehab
## 72                                           Los Angeles CA    8   rehab
## 73  Paducah KY-Cape Girardeau MO-Harrisburg-Mount Vernon IL    8   rehab
## 74                                           New York NY    8   rehab
## 75                                 Hartford & New Haven CT    8   rehab
## 76                       Tampa-St. Petersburg (Sarasota) FL    8   rehab
## 77                                          Shreveport LA    8   rehab
## 78                 Mobile AL-Pensacola (Ft. Walton Beach) FL    8   rehab
## 79                                 Wichita-Hutchinson KS    8   rehab
## 80                                       Jacksonville FL    8   rehab
## 81                                 Richmond-Petersburg VA    7   rehab
## 82                                    Monterey-Salinas CA    7   rehab
## 83                                 Springfield-Holyoke MA    7   rehab
## 84                                             Reno NV    7   rehab
## 85                                 Florence-Myrtle Beach SC    7   rehab
## 86                                 Charleston-Huntington WV    7   rehab
## 87                                         Philadelphia PA    7   rehab
## 88                                            Honolulu HI    7   rehab
## 89                               Albany-Schenectady-Troy NY    7   rehab
## 90               Ft. Smith-Fayetteville-Springdale-Rogers AR    7   rehab
## 91                               Wilkes Barre-Scranton PA    6   rehab
## 92                                             Austin TX    6   rehab
## 93                                           St. Louis MO    6   rehab
## 94                                               Tulsa OK    6   rehab
## 95                                           Birmingham AL    6   rehab
## 96                                Boston MA-Manchester NH    6   rehab
## 97                                Tucson (Sierra Vista) AZ    6   rehab
## 98                                       Fresno-Visalia CA    6   rehab
## 99                                                Boise ID    6   rehab
## 100                                         Chattanooga TN    6   rehab
## 101                                           Nashville TN    6   rehab
## 102                  Greensboro-High Point-Winston Salem NC    6   rehab
## 103                                           Denver CO    6   rehab
## 104                                           Phoenix AZ    6   rehab
## 105                                         Savannah GA    6   rehab
## 106                          Providence RI-New Bedford MA    6   rehab
## 107                                         Charleston SC    5   rehab
## 108                            Colorado Springs-Pueblo CO    5   rehab
## 109                                          Columbus OH    5   rehab
## 110                                         Kansas City MO    5   rehab
## 111                  Grand Rapids-Kalamazoo-Battle Creek MI    5   rehab
## 112                                Green Bay-Appleton WI    5   rehab
## 113                                             Toledo OH    5   rehab
## 114                                 Waco-Temple-Bryan TX    5   rehab
## 115                                           Charlotte NC    5   rehab
## 116                          West Palm Beach-Ft. Pierce FL    5   rehab
## 117                                           Spokane WA    5   rehab
## 118                                       Oklahoma City OK    5   rehab
## 119                                          Pittsburgh PA    5   rehab
## 120                                           San Diego CA    5   rehab
## 121                                    Portland-Auburn ME    5   rehab
```

```
## 122                                          Cincinnati OH    5   rehab
## 123                       Harrisburg-Lancaster-Lebanon-York PA    5   rehab
## 124                                           Lexington KY    5   rehab
## 125                                           Las Vegas NV    5   rehab
## 126                              Washington DC (Hagerstown MD)    4   rehab
## 127                                    Dallas-Ft. Worth TX    4   rehab
## 128                                             Buffalo NY    4   rehab
## 129                                             Chicago IL    4   rehab
## 130                                           Baltimore MD    4   rehab
## 131                                      Salt Lake City UT    4   rehab
## 132                            Raleigh-Durham (Fayetteville) NC    4   rehab
## 133      Greenville-Spartanburg SC-Asheville NC-Anderson SC    4   rehab
## 134                                    Miami-Ft. Lauderdale FL    4   rehab
## 135                                             Houston TX    4   rehab
## 136                                          Louisville KY    4   rehab
## 137                                             Madison WI    4   rehab
## 138                                           Portland OR    4   rehab
## 139                          Norfolk-Portsmouth-Newport News VA    4   rehab
## 140                                          New Orleans LA    4   rehab
## 141                                          Indianapolis IN    4   rehab
## 142                                              Atlanta GA    4   rehab
## 143                          Orlando-Daytona Beach-Melbourne FL    4   rehab
## 144                                             Detroit MI    3   rehab
## 145                                 Albuquerque-Santa Fe NM    3   rehab
## 146                           San Francisco-Oakland-San Jose CA    3   rehab
## 147                                      Seattle-Tacoma WA    3   rehab
## 148                             Sacramento-Stockton-Modesto CA    3   rehab
## 149                                   Minneapolis-St. Paul MN    3   rehab
## 150                                 Cleveland-Akron (Canton) OH    3   rehab
##     geo gprop
## 1    US   web
## 2    US   web
## 3    US   web
## 4    US   web
## 5    US   web
## 6    US   web
## 7    US   web
## 8    US   web
## 9    US   web
## 10   US   web
## 11   US   web
## 12   US   web
## 13   US   web
## 14   US   web
## 15   US   web
## 16   US   web
## 17   US   web
## 18   US   web
## 19   US   web
## 20   US   web
## 21   US   web
## 22   US   web
## 23   US   web
## 24   US   web
```

```
## 25   US   web
## 26   US   web
## 27   US   web
## 28   US   web
## 29   US   web
## 30   US   web
## 31   US   web
## 32   US   web
## 33   US   web
## 34   US   web
## 35   US   web
## 36   US   web
## 37   US   web
## 38   US   web
## 39   US   web
## 40   US   web
## 41   US   web
## 42   US   web
## 43   US   web
## 44   US   web
## 45   US   web
## 46   US   web
## 47   US   web
## 48   US   web
## 49   US   web
## 50   US   web
## 51   US   web
## 52   US   web
## 53   US   web
## 54   US   web
## 55   US   web
## 56   US   web
## 57   US   web
## 58   US   web
## 59   US   web
## 60   US   web
## 61   US   web
## 62   US   web
## 63   US   web
## 64   US   web
## 65   US   web
## 66   US   web
## 67   US   web
## 68   US   web
## 69   US   web
## 70   US   web
## 71   US   web
## 72   US   web
## 73   US   web
## 74   US   web
## 75   US   web
## 76   US   web
## 77   US   web
## 78   US   web
```

```
## 79   US   web
## 80   US   web
## 81   US   web
## 82   US   web
## 83   US   web
## 84   US   web
## 85   US   web
## 86   US   web
## 87   US   web
## 88   US   web
## 89   US   web
## 90   US   web
## 91   US   web
## 92   US   web
## 93   US   web
## 94   US   web
## 95   US   web
## 96   US   web
## 97   US   web
## 98   US   web
## 99   US   web
## 100  US   web
## 101  US   web
## 102  US   web
## 103  US   web
## 104  US   web
## 105  US   web
## 106  US   web
## 107  US   web
## 108  US   web
## 109  US   web
## 110  US   web
## 111  US   web
## 112  US   web
## 113  US   web
## 114  US   web
## 115  US   web
## 116  US   web
## 117  US   web
## 118  US   web
## 119  US   web
## 120  US   web
## 121  US   web
## 122  US   web
## 123  US   web
## 124  US   web
## 125  US   web
## 126  US   web
## 127  US   web
## 128  US   web
## 129  US   web
## 130  US   web
## 131  US   web
## 132  US   web
```

```
## 133  US   web
## 134  US   web
## 135  US   web
## 136  US   web
## 137  US   web
## 138  US   web
## 139  US   web
## 140  US   web
## 141  US   web
## 142  US   web
## 143  US   web
## 144  US   web
## 145  US   web
## 146  US   web
## 147  US   web
## 148  US   web
## 149  US   web
## 150  US   web
##
## $interest_by_city
## NULL
##
## $related_topics
##          subject related_topics
## 1.top        100            top
## 2.top         10            top
## 3.top          5            top
## 4.top          0            top
## 5.top          0            top
## 1.rising    +40%         rising
##                                                    value geo keyword
## 1.top                                Drug rehabilitation  US   rehab
## 2.top                                               Drug  US   rehab
## 3.top    Rancho Los Amigos National Rehabilitation Center  US   rehab
## 4.top                                        Measurement  US   rehab
## 5.top                              Involuntary commitment  US   rehab
## 1.rising Rancho Los Amigos National Rehabilitation Center  US   rehab
##          category
## 1.top         437
## 2.top         437
## 3.top         437
## 4.top         437
## 5.top         437
## 1.rising      437
##
## $related_queries
##          subject related_queries                          value geo
## 1.top        100             top                depression rehab  US
## 2.top         60             top             rehab for depression  US
## 3.top         25             top rehab for depression and anxiety  US
## 1.rising    +80%          rising rehab for depression and anxiety  US
##          keyword category
## 1.top      rehab      437
## 2.top      rehab      437
```

```
## 3.top      rehab      437
## 1.rising   rehab      437
##
## attr(,"class")
## [1] "gtrends" "list"
```

For example, this gives us search frequencies by cities in CA in the U.S.

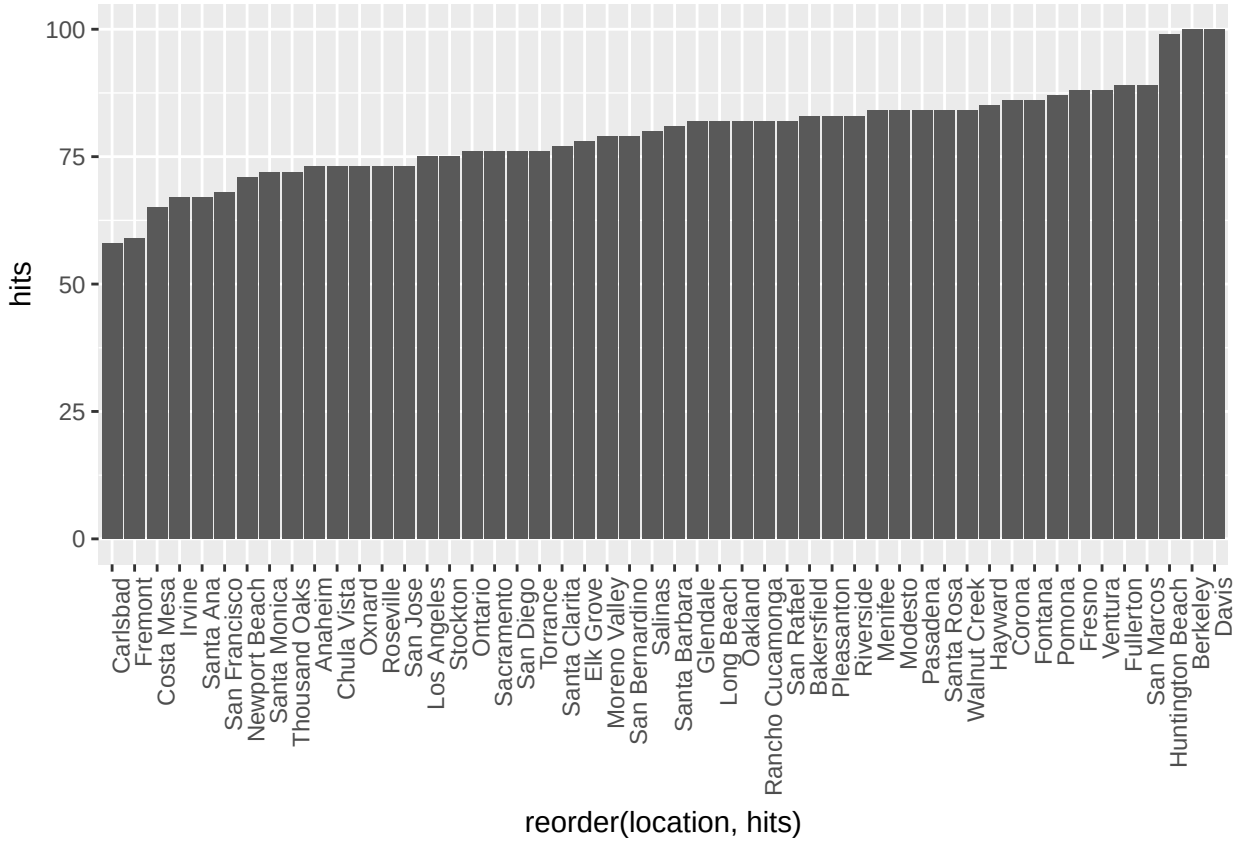
```
cities_dep<-gtrends("depression",c("US-CA"),time="today 12-m",category=437)$interest_by_city
cities_dep
```

```
##            location hits    keyword   geo gprop
## 1          Berkeley  100 depression US-CA   web
## 2             Davis  100 depression US-CA   web
## 3  Huntington Beach   99 depression US-CA   web
## 4         Fullerton   89 depression US-CA   web
## 5        San Marcos   89 depression US-CA   web
## 6           Ventura   88 depression US-CA   web
## 7            Fresno   88 depression US-CA   web
## 8            Pomona   87 depression US-CA   web
## 9           Fontana   86 depression US-CA   web
## 10           Corona   86 depression US-CA   web
## 11          Hayward   85 depression US-CA   web
## 12         Pasadena   84 depression US-CA   web
## 13          Modesto   84 depression US-CA   web
## 14       Santa Rosa   84 depression US-CA   web
## 15     Walnut Creek   84 depression US-CA   web
## 16          Menifee   84 depression US-CA   web
## 17        Riverside   83 depression US-CA   web
## 18       Pleasanton   83 depression US-CA   web
## 19      Bakersfield   83 depression US-CA   web
## 20 Rancho Cucamonga   82 depression US-CA   web
## 21       Long Beach   82 depression US-CA   web
## 22         Glendale   82 depression US-CA   web
## 23          Oakland   82 depression US-CA   web
## 24       San Rafael   82 depression US-CA   web
## 25    Santa Barbara   81 depression US-CA   web
## 26          Salinas   80 depression US-CA   web
## 27    Moreno Valley   79 depression US-CA   web
## 28   San Bernardino   79 depression US-CA   web
## 29        Elk Grove   78 depression US-CA   web
## 30    Santa Clarita   77 depression US-CA   web
## 31          Ontario   76 depression US-CA   web
## 32        San Diego   76 depression US-CA   web
## 33         Torrance   76 depression US-CA   web
## 34       Sacramento   76 depression US-CA   web
## 35      Los Angeles   75 depression US-CA   web
## 36         Stockton   75 depression US-CA   web
## 37         San Jose   73 depression US-CA   web
## 38        Roseville   73 depression US-CA   web
## 39      Chula Vista   73 depression US-CA   web
## 40          Anaheim   73 depression US-CA   web
## 41           Oxnard   73 depression US-CA   web
## 42    Thousand Oaks   72 depression US-CA   web
## 43     Santa Monica   72 depression US-CA   web
```

```
## 44    Newport Beach   71 depression US-CA   web
## 45    San Francisco   68 depression US-CA   web
## 46           Irvine   67 depression US-CA   web
## 47        Santa Ana   67 depression US-CA   web
## 48       Costa Mesa   65 depression US-CA   web
## 49          Fremont   59 depression US-CA   web
## 50         Carlsbad   58 depression US-CA   web
```

This plots cities_dep.

```
ggplot(cities_dep,aes(x=reorder(location,hits),y=hits))+geom_bar(stat="identity")+theme(axis.text.x = el
```




```
for (i in 1:length(cities_dep$location)) {
  place=geocode(cities_dep$location[i],output="latlon",source="dsk")
  cities_dep$lat[i]=as.numeric(place[1])
  cities_dep$lon[i]=as.numeric(place[2])
}
```

```
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Berkeley&sens
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Davis&sensor=
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Huntington%20
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Fullerton&sens
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=San%20Marcos&
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Ventura&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Fresno&sensor=
```

```
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Pomona&sensor=
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Fontana&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Corona&sensor=
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Hayward&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Pasadena&sens
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Modesto&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Santa%20Rosa&s
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Walnut%20Creek
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Menifee&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Riverside&sens
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Pleasanton&ser
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Bakersfield&s
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Rancho%20Cucam
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Long%20Beach&s
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Glendale&sens
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Oakland&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=San%20Rafael&s
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Santa%20Barbar
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Salinas&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Moreno%20Valle
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=San%20Bernardi
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Elk%20Grove&s
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Santa%20Clari
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Ontario&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=San%20Diego&s
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Torrance&sens
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Sacramento&ser
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Los%20Angeles&
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Stockton&sens
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=San%20Jose&ser
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Roseville&sens
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Chula%20Vista&
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Anaheim&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Oxnard&sensor=
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Thousand%20Oa
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Santa%20Monica
```

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## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Newport%20Bea
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=San%20Francis
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Irvine&sensor=
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Santa%20Ana&s
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Costa%20Mesa&s
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Fremont&senso
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=Carlsbad&sens
center=as.numeric(geocode("United States",source="dsk"))
```

```
## Information from URL : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=United%20Stat
mappy<-get_map(c(-119.4179,36.7783),zoom=6,scale=2,maptype = "terrain",source="google")
```

```
## Map from URL : http://maps.googleapis.com/maps/api/staticmap?center=36.7783,-119.4179&zoom=6&size=64
p=ggmap(mappy,extent="device",ylab="Latitude",xlab="Longitude")
p=p+geom_point(data=cities_dep,aes(x=lat,y=lon),size=(cities_dep$hits/50)^2)
p
```