data_manupulation

2022-06-20

DISCREPTION:

Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Most peop
This data set shows the Details of Statistics showing the Indigenous.Cases.till.25.05.2022, Indig

R glimpse glimpse () function get a glimpse of your data. dplyr package is needed to run this function.

```
library(dplyr)
glimpse(covid19)
```

```
## Rows: 42
## Columns: 7
## $ S.No                            <chr> "1", "2", "3", "4", "5", "6", "7", "8~
## $ District                        <chr> "Ariyalur", "Chengalpattu", "Chennai"~
## $ Indigenous.Cases.till.25.05.2022 <int> 19863, 235806, 752268, 329989, 74065,~
## $ Indigenous.Cases.on.26.05.2022   <int> 0, 15, 33, 3, 0, 0, 0, 0, 0, 3, 0, 0,~
## $ Imported.Cases.till.25.05.2022   <int> 20, 5, 48, 51, 203, 216, 77, 94, 404,~
## $ Imported.Cases.on.26.05.2022     <int> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0~
## $ Total.cases.till.26.05.2022      <int> 19883, 235826, 752349, 330043, 74268,~
```

The head () function returns the first part of a vector, Matrix, table, data frame, or function.

```
##   S.No     District Indigenous.Cases.till.25.05.2022
## 1    1     Ariyalur                           19863
## 2    2 Chengalpattu                          235806
## 3    3      Chennai                          752268
## 4    4   Coimbatore                          329989
## 5    5    Cuddalore                           74065
## 6    6   Dharmapuri                           35976
##   Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                              0                             20
## 2                             15                              5
## 3                             33                             48
## 4                              3                             51
## 5                              0                            203
## 6                              0                            216
##   Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                            0                       19883
## 2                            0                      235826
## 3                            0                      752349
```

```
## 4                              0                    330043
## 5                              0                     74268
## 6                              0                     36192
```

The skimr returns a summary with the name of the dataset and the number of rows and columns

```
library(skimr)
library(janitor)
```

```
##
## Attaching package: 'janitor'
```

```
## The following objects are masked from 'package:stats':
##
##     chisq.test, fisher.test
```

```
skim_without_charts(covid19)
```

Table 1: Data summary

Name	covid19
Number of rows	42
Number of columns	7
Column type frequency:	
character	2
numeric	5
Group variables	None

Variable type: character

skim_variable	n_missing	complete_rate	min	max	empty	n_unique	whitespace
S.No	0	1	1	5	0	42	0
District	0	1	5	36	0	42	0

Variable type: numeric

skim_variable	n_missing	complete_rate	mean	sd	p0	p25	p50	p75	p100
Indigenous.Cases.till.25.05.2022	0	1	164066.48	532857.05	0	33125.50	54705.5	91829.5	3445396
Indigenous.Cases.on.26.05.2022	0	1	2.83	10.46	0	0.00	0.0	0.0	59
Imported.Cases.till.25.05.2022	0	1	459.24	1511.92	3	44.25	99.0	237.0	9644
Imported.Cases.on.26.05.2022	0	1	0.00	0.00	0	0.00	0.0	0.0	0
Total.cases.till.26.05.2022	0	1	164003.26	534404.24	428	30505.00	55714.0	91889.5	3455099

selecting one coloumn

Here we are selecting only one coloumn(District) so We get a dataframe with only the "District" column.

```
covid19%>%select(District)
```

```
##                                 District
## 1                                Ariyalur
## 2                             Chengalpattu
## 3                                  Chennai
## 4                               Coimbatore
## 5                                Cuddalore
## 6                               Dharmapuri
## 7                                 Dindigul
## 8                                    Erode
## 9                               Kallakurichi
## 10                             Kancheepuram
## 11                            Kanniyakumari
## 12                                    Karur
## 13                              Krishnagiri
## 14                                  Madurai
## 15                            Mayiladuthurai
## 16                              Nagapattinam
## 17                                  Namakkal
## 18                                  Nilgiris
## 19                                Perambalur
## 20                               Pudukkottai
## 21                             Ramanathapuram
## 22                                    Ranipet
## 23                                     Salem
## 24                                  Sivaganga
## 25                                    Tenkasi
## 26                                  Thanjavur
## 27                                      Theni
## 28                                Thoothukudi
## 29                           Tiruchirappalli
## 30                               Tirunelveli
## 31                                Tirupathur
## 32                                  Tiruppur
## 33                                Tiruvallur
## 34                             Tiruvannamalai
## 35                                 Tiruvarur
## 36                                   Vellore
## 37                                Villupuram
## 38                              Virudhunagar
## 39 Airport Surveillance (International)
## 40      Airport Surveillance (Domestic)
## 41                  Railway Surveillance
## 42                             Grand Total
```

selecting all columns other than district

Here we are selecting all coloumn expect district so, We get a dataframe without the "Districts" column.

```
covid19%>%select(-District)
```

```
##     S.No Indigenous.Cases.till.25.05.2022 Indigenous.Cases.on.26.05.2022
## 1      1                             19863                             0
## 2      2                            235806                            15
## 3      3                            752268                            33
## 4      4                            329989                             3
## 5      5                             74065                             0
## 6      6                             35976                             0
## 7      7                             37403                             0
## 8      8                            132582                             0
## 9      9                             36118                             0
## 10    10                             94448                             3
## 11    11                             86110                             0
## 12    12                             29711                             0
## 13    13                             59397                             1
## 14    14                             90880                             3
## 15    15                             26459                             0
## 16    16                             25389                             0
## 17    17                             67898                             0
## 18    18                             42091                             0
## 19    19                             14458                             0
## 20    20                             34438                             0
## 21    21                             24547                             0
## 22    22                             53882                             0
## 23    23                            126963                             0
## 24    24                             23721                             0
## 25    25                             32688                             0
## 26    26                             92146                             0
## 27    27                             50558                             0
## 28    28                             64695                             0
## 29    29                             94897                             0
## 30    30                             62348                             0
## 31    31                             35620                             0
## 32    32                            129924                             0
## 33    33                            147517                             2
## 34    34                             66415                             0
## 35    35                             47979                             0
## 36    36                             54997                             0
## 37    37                             54414                             0
## 38    38                             56736                             0
## 39    39                                 0                             0
## 40    40                                 0                             0
## 41    41                                 0                             0
## 42 Total                           3445396                            59
##    Imported.Cases.till.25.05.2022 Imported.Cases.on.26.05.2022
## 1                              20                            0
## 2                               5                            0
```

```
## 3                              48                              0
## 4                              51                              0
## 5                             203                              0
## 6                             216                              0
## 7                              77                              0
## 8                              94                              0
## 9                             404                              0
## 10                              4                              0
## 11                            126                              0
## 12                             47                              0
## 13                            244                              0
## 14                            174                              0
## 15                             39                              0
## 16                             54                              0
## 17                            112                              0
## 18                             44                              0
## 19                              3                              0
## 20                             35                              0
## 21                            135                              0
## 22                             49                              0
## 23                            438                              0
## 24                            117                              0
## 25                             58                              0
## 26                             22                              0
## 27                             45                              0
## 28                            275                              0
## 29                             75                              0
## 30                            427                              0
## 31                            118                              0
## 32                             16                              0
## 33                             10                              0
## 34                            399                              0
## 35                             38                              0
## 36                           2326                              0
## 37                            174                              0
## 38                            104                              0
## 39                           1276                              0
## 40                           1114                              0
## 41                            428                              0
## 42                           9644                              0
##    Total.cases.till.26.05.2022
## 1                        19883
## 2                       235826
## 3                       752349
## 4                       330043
## 5                        74268
## 6                        36192
## 7                        37480
## 8                       132676
## 9                        14461
## 10                       94457
## 11                       86236
## 12                       29758
## 13                       59642
```

```
## 14                        91054
## 15                        26498
## 16                        25443
## 17                        68010
## 18                        42135
## 19                        14461
## 20                        34473
## 21                        24682
## 22                        53931
## 23                       127401
## 24                        23838
## 25                        32746
## 26                        92168
## 27                        50603
## 28                        64970
## 29                        94972
## 30                        62775
## 31                        35738
## 32                       129940
## 33                       147529
## 34                        66814
## 35                        48017
## 36                        57323
## 37                        54588
## 38                        56840
## 39                         1276
## 40                         1114
## 41                          428
## 42                      3455099
```

rename a variable

rename () function in R Language is used to rename the column names of a data frame, based on the older names, Here we have changed the name of the District into Districts

```
covid19
```

```
##     S.No                        District Indigenous.Cases.till.25.05.2022
## 1      1                         Ariyalur                           19863
## 2      2                     Chengalpattu                          235806
## 3      3                          Chennai                          752268
## 4      4                       Coimbatore                          329989
## 5      5                        Cuddalore                           74065
## 6      6                       Dharmapuri                           35976
## 7      7                         Dindigul                           37403
## 8      8                            Erode                          132582
## 9      9                      Kallakurichi                           36118
## 10    10                      Kancheepuram                           94448
## 11    11                     Kanniyakumari                           86110
## 12    12                             Karur                           29711
## 13    13                       Krishnagiri                           59397
```

```
## 14    14                          Madurai                          90880
## 15    15                       Mayiladuthurai                      26459
## 16    16                        Nagapattinam                       25389
## 17    17                           Namakkal                        67898
## 18    18                           Nilgiris                        42091
## 19    19                          Perambalur                       14458
## 20    20                          Pudukkottai                      34438
## 21    21                       Ramanathapuram                      24547
## 22    22                           Ranipet                         53882
## 23    23                             Salem                         126963
## 24    24                          Sivaganga                        23721
## 25    25                            Tenkasi                        32688
## 26    26                          Thanjavur                        92146
## 27    27                             Theni                         50558
## 28    28                         Thoothukudi                      64695
## 29    29                       Tiruchirappalli                     94897
## 30    30                          Tirunelveli                      62348
## 31    31                           Tirupathur                      35620
## 32    32                            Tiruppur                       129924
## 33    33                           Tiruvallur                      147517
## 34    34                       Tiruvannamalai                      66415
## 35    35                            Tiruvarur                      47979
## 36    36                              Vellore                      54997
## 37    37                           Villupuram                      54414
## 38    38                         Virudhunagar                      56736
## 39    39 Airport Surveillance (International)                          0
## 40    40      Airport Surveillance (Domestic)                          0
## 41    41                  Railway Surveillance                         0
## 42 Total                          Grand Total                      3445396
##    Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                               0                              20
## 2                              15                               5
## 3                              33                              48
## 4                               3                              51
## 5                               0                             203
## 6                               0                             216
## 7                               0                              77
## 8                               0                              94
## 9                               0                             404
## 10                              3                               4
## 11                              0                             126
## 12                              0                              47
## 13                              1                             244
## 14                              3                             174
## 15                              0                              39
## 16                              0                              54
## 17                              0                             112
## 18                              0                              44
## 19                              0                               3
## 20                              0                              35
## 21                              0                             135
## 22                              0                              49
## 23                              0                             438
## 24                              0                             117
```

```
## 25                                0                                58
## 26                                0                                22
## 27                                0                                45
## 28                                0                               275
## 29                                0                                75
## 30                                0                               427
## 31                                0                               118
## 32                                0                                16
## 33                                2                                10
## 34                                0                               399
## 35                                0                                38
## 36                                0                              2326
## 37                                0                               174
## 38                                0                               104
## 39                                0                              1276
## 40                                0                              1114
## 41                                0                               428
## 42                               59                              9644
##    Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                             0                        19883
## 2                             0                       235826
## 3                             0                       752349
## 4                             0                       330043
## 5                             0                        74268
## 6                             0                        36192
## 7                             0                        37480
## 8                             0                       132676
## 9                             0                        14461
## 10                            0                        94457
## 11                            0                        86236
## 12                            0                        29758
## 13                            0                        59642
## 14                            0                        91054
## 15                            0                        26498
## 16                            0                        25443
## 17                            0                        68010
## 18                            0                        42135
## 19                            0                        14461
## 20                            0                        34473
## 21                            0                        24682
## 22                            0                        53931
## 23                            0                       127401
## 24                            0                        23838
## 25                            0                        32746
## 26                            0                        92168
## 27                            0                        50603
## 28                            0                        64970
## 29                            0                        94972
## 30                            0                        62775
## 31                            0                        35738
## 32                            0                       129940
## 33                            0                       147529
## 34                            0                        66814
## 35                            0                        48017
```

```
## 36                              0                      57323
## 37                              0                      54588
## 38                              0                      56840
## 39                              0                       1276
## 40                              0                       1114
## 41                              0                        428
## 42                              0                    3455099
```

```
covid19 %>%
  rename("Districts" ="District") %>%
  glimpse()
```

```
## Rows: 42
## Columns: 7
## $ S.No                              <chr> "1", "2", "3", "4", "5", "6", "7", "8~
## $ Districts                         <chr> "Ariyalur", "Chengalpattu", "Chennai"~
## $ Indigenous.Cases.till.25.05.2022 <int> 19863, 235806, 752268, 329989, 74065,~
## $ Indigenous.Cases.on.26.05.2022   <int> 0, 15, 33, 3, 0, 0, 0, 0, 0, 3, 0, 0,~
## $ Imported.Cases.till.25.05.2022   <int> 20, 5, 48, 51, 203, 216, 77, 94, 404,~
## $ Imported.Cases.on.26.05.2022     <int> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0~
## $ Total.cases.till.26.05.2022      <int> 19883, 235826, 752349, 330043, 74268,~
```

clean

The easiest option to replace spaces in column names is with the clean.names () function. This R function creates syntactically correct column names by replacing blanks with an underscore. Here the coloumn names are replaced with Underscores

```
clean_names(covid19)
```

```
##     s_no                          district indigenous_cases_till_25_05_2022
## 1      1                         Ariyalur                             19863
## 2      2                      Chengalpattu                            235806
## 3      3                           Chennai                            752268
## 4      4                         Coimbatore                           329989
## 5      5                         Cuddalore                             74065
## 6      6                        Dharmapuri                             35976
## 7      7                          Dindigul                             37403
## 8      8                             Erode                            132582
## 9      9                       Kallakurichi                             36118
## 10    10                       Kancheepuram                             94448
## 11    11                      Kanniyakumari                             86110
## 12    12                              Karur                             29711
## 13    13                        Krishnagiri                             59397
## 14    14                            Madurai                             90880
## 15    15                     Mayiladuthurai                             26459
## 16    16                       Nagapattinam                             25389
## 17    17                            Namakkal                             67898
## 18    18                            Nilgiris                             42091
## 19    19                          Perambalur                             14458
## 20    20                         Pudukkottai                             34438
```

```
## 21    21                        Ramanathapuram                          24547
## 22    22                               Ranipet                          53882
## 23    23                                 Salem                         126963
## 24    24                              Sivaganga                          23721
## 25    25                                Tenkasi                          32688
## 26    26                              Thanjavur                          92146
## 27    27                                  Theni                          50558
## 28    28                             Thoothukudi                         64695
## 29    29                           Tiruchirappalli                       94897
## 30    30                              Tirunelveli                        62348
## 31    31                               Tirupathur                        35620
## 32    32                                 Tiruppur                       129924
## 33    33                               Tiruvallur                       147517
## 34    34                           Tiruvannamalai                       66415
## 35    35                                Tiruvarur                       47979
## 36    36                                  Vellore                       54997
## 37    37                               Villupuram                       54414
## 38    38                              Virudhunagar                      56736
## 39    39 Airport Surveillance (International)                              0
## 40    40      Airport Surveillance (Domestic)                              0
## 41    41                  Railway Surveillance                             0
## 42 Total                             Grand Total                       3445396
##    indigenous_cases_on_26_05_2022 imported_cases_till_25_05_2022
## 1                               0                             20
## 2                              15                              5
## 3                              33                             48
## 4                               3                             51
## 5                               0                            203
## 6                               0                            216
## 7                               0                             77
## 8                               0                             94
## 9                               0                            404
## 10                              3                              4
## 11                              0                            126
## 12                              0                             47
## 13                              1                            244
## 14                              3                            174
## 15                              0                             39
## 16                              0                             54
## 17                              0                            112
## 18                              0                             44
## 19                              0                              3
## 20                              0                             35
## 21                              0                            135
## 22                              0                             49
## 23                              0                            438
## 24                              0                            117
## 25                              0                             58
## 26                              0                             22
## 27                              0                             45
## 28                              0                            275
## 29                              0                             75
## 30                              0                            427
## 31                              0                            118
```

```
## 32                              0                              16
## 33                              2                              10
## 34                              0                             399
## 35                              0                              38
## 36                              0                            2326
## 37                              0                             174
## 38                              0                             104
## 39                              0                            1276
## 40                              0                            1114
## 41                              0                             428
## 42                             59                            9644
##    imported_cases_on_26_05_2022 total_cases_till_26_05_2022
## 1                             0                         19883
## 2                             0                        235826
## 3                             0                        752349
## 4                             0                        330043
## 5                             0                         74268
## 6                             0                         36192
## 7                             0                         37480
## 8                             0                        132676
## 9                             0                         14461
## 10                            0                         94457
## 11                            0                         86236
## 12                            0                         29758
## 13                            0                         59642
## 14                            0                         91054
## 15                            0                         26498
## 16                            0                         25443
## 17                            0                         68010
## 18                            0                         42135
## 19                            0                         14461
## 20                            0                         34473
## 21                            0                         24682
## 22                            0                         53931
## 23                            0                        127401
## 24                            0                         23838
## 25                            0                         32746
## 26                            0                         92168
## 27                            0                         50603
## 28                            0                         64970
## 29                            0                         94972
## 30                            0                         62775
## 31                            0                         35738
## 32                            0                        129940
## 33                            0                        147529
## 34                            0                         66814
## 35                            0                         48017
## 36                            0                         57323
## 37                            0                         54588
## 38                            0                         56840
## 39                            0                          1276
## 40                            0                          1114
## 41                            0                           428
## 42                            0                       3455099
```

unique

The unique () function in R is used to eliminate or delete the duplicate values or the rows present in the vector, data frame, or matrix as well. In Kancheepuram and Perambalur Imported.Cases.till.25.05.2022 is 3 duplicate value is deleted using unique function.

```
unique(covid19$Imported.Cases.till.25.05.2022)
```

```
##  [1]   20    5   48   51  203  216   77   94  404    4  126   47  244  174   39
## [16]   54  112   44    3   35  135   49  438  117   58   22   45  275   75  427
## [31]  118   16   10  399   38 2326  104 1276 1114  428 9644
```

ORGANISING THE DATA (filter(),group_by(),arrange(),summarise())

filter

The filter () function is used to produce a subset of the data frame, retaining all rows that satisfy the specified conditions. In this data set in column Indigenous.Cases.till.25.05.2022 we filter the cases with 0. There are three districts with 0 cases.

```
covid19%>%filter(Indigenous.Cases.till.25.05.2022 =="0")
```

```
##   S.No                            District Indigenous.Cases.till.25.05.2022
## 1   39 Airport Surveillance (International)                                 0
## 2   40      Airport Surveillance (Domestic)                                 0
## 3   41                  Railway Surveillance                                0
##   Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                              0                            1276
## 2                              0                            1114
## 3                              0                             428
##   Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                            0                       1276
## 2                            0                       1114
## 3                            0                        428
```

filter

In this data set in column Indigenous.Cases.on.26.05.2022 we filter the cases with 3. There are two districts with 3 cases.

```
covid19%>%filter(Indigenous.Cases.on.26.05.2022 == "3")
```

```
##   S.No     District Indigenous.Cases.till.25.05.2022
## 1    4   Coimbatore                           329989
## 2   10 Kancheepuram                            94448
## 3   14      Madurai                            90880
##   Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                              3                              51
```

```
## 2                             3                             4
## 3                             3                           174
##   Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                            0                        330043
## 2                            0                         94457
## 3                            0                         91054
```

In this data set in column Imported.Cases.till.25.05.2022 we filter the cases with 3. There are two districts with 3 cases.

```
covid19%>%filter(Imported.Cases.till.25.05.2022=="3")
```

```
##   S.No   District Indigenous.Cases.till.25.05.2022
## 1   19 Perambalur                            14458
##   Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                              0                             3
##   Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                            0                        14461
```

Like wise we filter Total.cases.till.26.05.2022 as 14461, There are two districts with 14458 cases.

```
covid19%>%filter(Total.cases.till.26.05.2022=="14461")
```

```
##   S.No     District Indigenous.Cases.till.25.05.2022
## 1    9 Kallakurichi                            36118
## 2   19   Perambalur                            14458
##   Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                              0                           404
## 2                              0                             3
##   Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                            0                        14461
## 2                            0                        14461
```

group_by & summarise

group_by allows you to group by a one or more variables. summarize: summarize creates a new data.frame containing calculated summary information about a grouped variable. Here the data set is grouped by district and summarize imformation about Imported.Cases.till.25.05.2022

```
covid19%>%group_by(District)%>%drop_na()%>%summarise(Imported.Cases.till.25.05.2022)
```

```
## # A tibble: 42 x 2
##    District                          Imported.Cases.till.25.05.2022
##    <chr>                                                      <int>
##  1 Airport Surveillance (Domestic)                             1114
```

```
##  2 Airport Surveillance (International)                          1276
##  3 Ariyalur                                                        20
##  4 Chengalpattu                                                     5
##  5 Chennai                                                         48
##  6 Coimbatore                                                      51
##  7 Cuddalore                                                      203
##  8 Dharmapuri                                                     216
##  9 Dindigul                                                        77
## 10 Erode                                                           94
## # ... with 32 more rows
```

Here the data set is grouped by district and summarize imformation about Total.cases.till.26.05.2022

```
covid19%>%group_by(District)%>%drop_na()%>%summarise(Total.cases.till.26.05.2022)
```

```
## # A tibble: 42 x 2
##    District                              Total.cases.till.26.05.2022
##    <chr>                                                       <int>
##  1 Airport Surveillance (Domestic)                              1114
##  2 Airport Surveillance (International)                         1276
##  3 Ariyalur                                                    19883
##  4 Chengalpattu                                               235826
##  5 Chennai                                                    752349
##  6 Coimbatore                                                 330043
##  7 Cuddalore                                                   74268
##  8 Dharmapuri                                                  36192
##  9 Dindigul                                                    37480
## 10 Erode                                                      132676
## # ... with 32 more rows
```

arrange

The arrange () function is used to rearrange rows in ascending or descending order. In this dataset District column is arranged in decending order.

```
covid19%>%arrange(desc(District))
```

```
##     S.No                          District Indigenous.Cases.till.25.05.2022
## 1     38                       Virudhunagar                            56736
## 2     37                         Villupuram                            54414
## 3     36                            Vellore                            54997
## 4     35                          Tiruvarur                            47979
## 5     34                      Tiruvannamalai                            66415
## 6     33                          Tiruvallur                           147517
## 7     32                           Tiruppur                           129924
## 8     31                          Tirupathur                            35620
## 9     30                         Tirunelveli                            62348
## 10    29                      Tiruchirappalli                            94897
```

```
## 11    28                          Thoothukudi                          64695
## 12    27                               Theni                           50558
## 13    26                            Thanjavur                          92146
## 14    25                              Tenkasi                          32688
## 15    24                            Sivaganga                          23721
## 16    23                                Salem                         126963
## 17    22                              Ranipet                          53882
## 18    21                         Ramanathapuram                        24547
## 19    41                     Railway Surveillance                          0
## 20    20                             Pudukkottai                       34438
## 21    19                              Perambalur                       14458
## 22    18                                Nilgiris                       42091
## 23    17                                Namakkal                       67898
## 24    16                             Nagapattinam                      25389
## 25    15                            Mayiladuthurai                     26459
## 26    14                                 Madurai                       90880
## 27    13                              Krishnagiri                      59397
## 28    12                                    Karur                      29711
## 29    11                             Kanniyakumari                     86110
## 30    10                              Kancheepuram                     94448
## 31     9                              Kallakurichi                     36118
## 32 Total                               Grand Total                    3445396
## 33     8                                   Erode                       132582
## 34     7                                 Dindigul                      37403
## 35     6                               Dharmapuri                      35976
## 36     5                                Cuddalore                      74065
## 37     4                               Coimbatore                     329989
## 38     3                                  Chennai                     752268
## 39     2                               Chengalpattu                    235806
## 40     1                                  Ariyalur                     19863
## 41    39 Airport Surveillance (International)                             0
## 42    40      Airport Surveillance (Domestic)                             0
##    Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                               0                             104
## 2                               0                             174
## 3                               0                            2326
## 4                               0                              38
## 5                               0                             399
## 6                               2                              10
## 7                               0                              16
## 8                               0                             118
## 9                               0                             427
## 10                              0                              75
## 11                              0                             275
## 12                              0                              45
## 13                              0                              22
## 14                              0                              58
## 15                              0                             117
## 16                              0                             438
## 17                              0                              49
## 18                              0                             135
## 19                              0                             428
## 20                              0                              35
## 21                              0                               3
```

```
## 22                                0                                44
## 23                                0                               112
## 24                                0                                54
## 25                                0                                39
## 26                                3                               174
## 27                                1                               244
## 28                                0                                47
## 29                                0                               126
## 30                                3                                 4
## 31                                0                               404
## 32                               59                              9644
## 33                                0                                94
## 34                                0                                77
## 35                                0                               216
## 36                                0                               203
## 37                                3                                51
## 38                               33                                48
## 39                               15                                 5
## 40                                0                                20
## 41                                0                              1276
## 42                                0                              1114
##    Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                             0                        56840
## 2                             0                        54588
## 3                             0                        57323
## 4                             0                        48017
## 5                             0                        66814
## 6                             0                       147529
## 7                             0                       129940
## 8                             0                        35738
## 9                             0                        62775
## 10                            0                        94972
## 11                            0                        64970
## 12                            0                        50603
## 13                            0                        92168
## 14                            0                        32746
## 15                            0                        23838
## 16                            0                       127401
## 17                            0                        53931
## 18                            0                        24682
## 19                            0                          428
## 20                            0                        34473
## 21                            0                        14461
## 22                            0                        42135
## 23                            0                        68010
## 24                            0                        25443
## 25                            0                        26498
## 26                            0                        91054
## 27                            0                        59642
## 28                            0                        29758
## 29                            0                        86236
## 30                            0                        94457
## 31                            0                        14461
## 32                            0                      3455099
```

```
## 33                          0                    132676
## 34                          0                     37480
## 35                          0                     36192
## 36                          0                     74268
## 37                          0                    330043
## 38                          0                    752349
## 39                          0                    235826
## 40                          0                     19883
## 41                          0                      1276
## 42                          0                      1114
```

arrange by group

R arrange () orders the rows of a data frame by the values of selected columns. , In this dataset Indigenous.Cases.on.26.05.2022 arranged in decending order.

```
covid19%>%arrange(desc(Indigenous.Cases.on.26.05.2022), .by_group = TRUE)
```

```
##     S.No                        District Indigenous.Cases.till.25.05.2022
## 1  Total                    Grand Total                           3445396
## 2      3                        Chennai                            752268
## 3      2                   Chengalpattu                            235806
## 4      4                     Coimbatore                            329989
## 5     10                    Kancheepuram                             94448
## 6     14                        Madurai                             90880
## 7     33                     Tiruvallur                            147517
## 8     13                    Krishnagiri                             59397
## 9      1                       Ariyalur                             19863
## 10     5                      Cuddalore                             74065
## 11     6                     Dharmapuri                             35976
## 12     7                       Dindigul                             37403
## 13     8                         Erode                            132582
## 14     9                    Kallakurichi                             36118
## 15    11                   Kanniyakumari                             86110
## 16    12                           Karur                             29711
## 17    15                  Mayiladuthurai                             26459
## 18    16                    Nagapattinam                             25389
## 19    17                        Namakkal                             67898
## 20    18                        Nilgiris                             42091
## 21    19                       Perambalur                             14458
## 22    20                      Pudukkottai                             34438
## 23    21                  Ramanathapuram                             24547
## 24    22                         Ranipet                             53882
## 25    23                           Salem                            126963
## 26    24                        Sivaganga                             23721
## 27    25                         Tenkasi                             32688
## 28    26                        Thanjavur                             92146
## 29    27                           Theni                             50558
## 30    28                      Thoothukudi                             64695
## 31    29                  Tiruchirappalli                             94897
## 32    30                      Tirunelveli                             62348
```

```
## 33    31                          Tirupathur                          35620
## 34    32                           Tiruppur                         129924
## 35    34                       Tiruvannamalai                         66415
## 36    35                            Tiruvarur                         47979
## 37    36                              Vellore                         54997
## 38    37                           Villupuram                         54414
## 39    38                         Virudhunagar                         56736
## 40    39 Airport Surveillance (International)                             0
## 41    40      Airport Surveillance (Domestic)                             0
## 42    41                  Railway Surveillance                             0
##    Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                              59                           9644
## 2                              33                             48
## 3                              15                              5
## 4                               3                             51
## 5                               3                              4
## 6                               3                            174
## 7                               2                             10
## 8                               1                            244
## 9                               0                             20
## 10                              0                            203
## 11                              0                            216
## 12                              0                             77
## 13                              0                             94
## 14                              0                            404
## 15                              0                            126
## 16                              0                             47
## 17                              0                             39
## 18                              0                             54
## 19                              0                            112
## 20                              0                             44
## 21                              0                              3
## 22                              0                             35
## 23                              0                            135
## 24                              0                             49
## 25                              0                            438
## 26                              0                            117
## 27                              0                             58
## 28                              0                             22
## 29                              0                             45
## 30                              0                            275
## 31                              0                             75
## 32                              0                            427
## 33                              0                            118
## 34                              0                             16
## 35                              0                            399
## 36                              0                             38
## 37                              0                           2326
## 38                              0                            174
## 39                              0                            104
## 40                              0                           1276
## 41                              0                           1114
## 42                              0                            428
##    Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
```

```
## 1                              0                    3455099
## 2                              0                     752349
## 3                              0                     235826
## 4                              0                     330043
## 5                              0                      94457
## 6                              0                      91054
## 7                              0                     147529
## 8                              0                      59642
## 9                              0                      19883
## 10                             0                      74268
## 11                             0                      36192
## 12                             0                      37480
## 13                             0                     132676
## 14                             0                      14461
## 15                             0                      86236
## 16                             0                      29758
## 17                             0                      26498
## 18                             0                      25443
## 19                             0                      68010
## 20                             0                      42135
## 21                             0                      14461
## 22                             0                      34473
## 23                             0                      24682
## 24                             0                      53931
## 25                             0                     127401
## 26                             0                      23838
## 27                             0                      32746
## 28                             0                      92168
## 29                             0                      50603
## 30                             0                      64970
## 31                             0                      94972
## 32                             0                      62775
## 33                             0                      35738
## 34                             0                     129940
## 35                             0                      66814
## 36                             0                      48017
## 37                             0                      57323
## 38                             0                      54588
## 39                             0                      56840
## 40                             0                       1276
## 41                             0                       1114
## 42                             0                        428
```

```
covid19%>%arrange(across(starts_with("T")))
```

```
##     S.No                             District Indigenous.Cases.till.25.05.2022
## 1     41                  Railway Surveillance                                0
## 2     40      Airport Surveillance (Domestic)                                0
## 3     39 Airport Surveillance (International)                                0
## 4      9                           Kallakurichi                            36118
## 5     19                             Perambalur                            14458
## 6      1                               Ariyalur                            19863
## 7     24                              Sivaganga                            23721
## 8     21                          Ramanathapuram                            24547
## 9     16                             Nagapattinam                            25389
```

```
## 10    15                        Mayiladuthurai                        26459
## 11    12                                 Karur                        29711
## 12    25                               Tenkasi                        32688
## 13    20                            Pudukkottai                        34438
## 14    31                             Tirupathur                        35620
## 15     6                             Dharmapuri                        35976
## 16     7                               Dindigul                        37403
## 17    18                                Nilgiris                        42091
## 18    35                              Tiruvarur                        47979
## 19    27                                  Theni                        50558
## 20    22                                Ranipet                        53882
## 21    37                             Villupuram                        54414
## 22    38                            Virudhunagar                        56736
## 23    36                                 Vellore                        54997
## 24    13                             Krishnagiri                        59397
## 25    30                             Tirunelveli                        62348
## 26    28                            Thoothukudi                        64695
## 27    34                         Tiruvannamalai                        66415
## 28    17                                Namakkal                        67898
## 29     5                               Cuddalore                        74065
## 30    11                            Kanniyakumari                        86110
## 31    14                                 Madurai                        90880
## 32    26                               Thanjavur                        92146
## 33    10                             Kancheepuram                        94448
## 34    29                           Tiruchirappalli                        94897
## 35    23                                   Salem                       126963
## 36    32                                Tiruppur                       129924
## 37     8                                  Erode                       132582
## 38    33                             Tiruvallur                       147517
## 39     2                            Chengalpattu                       235806
## 40     4                              Coimbatore                       329989
## 41     3                                 Chennai                       752268
## 42 Total                            Grand Total                      3445396
##    Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                               0                            428
## 2                               0                           1114
## 3                               0                           1276
## 4                               0                            404
## 5                               0                              3
## 6                               0                             20
## 7                               0                            117
## 8                               0                            135
## 9                               0                             54
## 10                              0                             39
## 11                              0                             47
## 12                              0                             58
## 13                              0                             35
## 14                              0                            118
## 15                              0                            216
## 16                              0                             77
## 17                              0                             44
## 18                              0                             38
## 19                              0                             45
## 20                              0                             49
```

```
## 21                                0                                174
## 22                                0                                104
## 23                                0                               2326
## 24                                1                                244
## 25                                0                                427
## 26                                0                                275
## 27                                0                                399
## 28                                0                                112
## 29                                0                                203
## 30                                0                                126
## 31                                3                                174
## 32                                0                                 22
## 33                                3                                  4
## 34                                0                                 75
## 35                                0                                438
## 36                                0                                 16
## 37                                0                                 94
## 38                                2                                 10
## 39                               15                                  5
## 40                                3                                 51
## 41                               33                                 48
## 42                               59                               9644
##    Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                             0                         428
## 2                             0                        1114
## 3                             0                        1276
## 4                             0                       14461
## 5                             0                       14461
## 6                             0                       19883
## 7                             0                       23838
## 8                             0                       24682
## 9                             0                       25443
## 10                            0                       26498
## 11                            0                       29758
## 12                            0                       32746
## 13                            0                       34473
## 14                            0                       35738
## 15                            0                       36192
## 16                            0                       37480
## 17                            0                       42135
## 18                            0                       48017
## 19                            0                       50603
## 20                            0                       53931
## 21                            0                       54588
## 22                            0                       56840
## 23                            0                       57323
## 24                            0                       59642
## 25                            0                       62775
## 26                            0                       64970
## 27                            0                       66814
## 28                            0                       68010
## 29                            0                       74268
## 30                            0                       86236
## 31                            0                       91054
```

```
## 32                              0                        92168
## 33                              0                        94457
## 34                              0                        94972
## 35                              0                       127401
## 36                              0                       129940
## 37                              0                       132676
## 38                              0                       147529
## 39                              0                       235826
## 40                              0                       330043
## 41                              0                       752349
## 42                              0                      3455099
```

slice

Description slice () lets you index rows by their (integer) locations. It allows you to select, remove, and duplicate rows.

```
covid19%>%slice(1L)
```

```
##   S.No District Indigenous.Cases.till.25.05.2022 Indigenous.Cases.on.26.05.2022
## 1    1 Ariyalur                            19863                              0
##   Imported.Cases.till.25.05.2022 Imported.Cases.on.26.05.2022
## 1                             20                           0
##   Total.cases.till.26.05.2022
## 1                       19883
```

```
covid19%>%slice_min(District,n=15)
```

```
##     S.No                             District Indigenous.Cases.till.25.05.2022
## 1     40      Airport Surveillance (Domestic)                                0
## 2     39 Airport Surveillance (International)                                0
## 3      1                            Ariyalur                            19863
## 4      2                          Chengalpattu                           235806
## 5      3                               Chennai                           752268
## 6      4                            Coimbatore                           329989
## 7      5                             Cuddalore                            74065
## 8      6                            Dharmapuri                            35976
## 9      7                              Dindigul                            37403
## 10     8                                 Erode                           132582
## 11 Total                           Grand Total                          3445396
## 12     9                           Kallakurichi                            36118
## 13    10                           Kancheepuram                            94448
## 14    11                          Kanniyakumari                            86110
## 15    12                                  Karur                            29711
##    Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                               0                           1114
## 2                               0                           1276
## 3                               0                             20
## 4                              15                              5
## 5                              33                             48
## 6                               3                             51
## 7                               0                            203
## 8                               0                            216
## 9                               0                             77
## 10                              0                             94
```

```
## 11                              59                           9644
## 12                               0                            404
## 13                               3                              4
## 14                               0                            126
## 15                               0                             47
##    Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                             0                        1114
## 2                             0                        1276
## 3                             0                       19883
## 4                             0                      235826
## 5                             0                      752349
## 6                             0                      330043
## 7                             0                       74268
## 8                             0                       36192
## 9                             0                       37480
## 10                            0                      132676
## 11                            0                     3455099
## 12                            0                       14461
## 13                            0                       94457
## 14                            0                       86236
## 15                            0                       29758
```

TRANSFORMING DATA mutate(),unite()

mutate

The mutate () function is a function for creating new variables.

Here I have added New column named Result to show the result if Total.cases.till.26.05.2022 > 5000 then "Many cases", if not more then 5000 then "Not many cases"

```
covid19 %>%
mutate(Result= if_else(Total.cases.till.26.05.2022 > 5000, "Many cases", "Not many cases"))
```

```
##     S.No                          District Indigenous.Cases.till.25.05.2022
## 1      1                           Ariyalur                           19863
## 2      2                        Chengalpattu                          235806
## 3      3                             Chennai                          752268
## 4      4                          Coimbatore                          329989
## 5      5                           Cuddalore                           74065
## 6      6                          Dharmapuri                           35976
## 7      7                            Dindigul                           37403
## 8      8                              Erode                          132582
## 9      9                         Kallakurichi                           36118
## 10    10                         Kancheepuram                           94448
## 11    11                        Kanniyakumari                           86110
## 12    12                                Karur                           29711
## 13    13                          Krishnagiri                           59397
## 14    14                               Madurai                           90880
## 15    15                        Mayiladuthurai                           26459
## 16    16                          Nagapattinam                           25389
## 17    17                               Namakkal                           67898
## 18    18                               Nilgiris                           42091
## 19    19                              Perambalur                           14458
```

```
## 20    20                          Pudukkottai                          34438
## 21    21                       Ramanathapuram                          24547
## 22    22                              Ranipet                          53882
## 23    23                                Salem                         126963
## 24    24                            Sivaganga                          23721
## 25    25                              Tenkasi                          32688
## 26    26                             Thanjavur                          92146
## 27    27                                 Theni                          50558
## 28    28                            Thoothukudi                          64695
## 29    29                          Tiruchirappalli                          94897
## 30    30                             Tirunelveli                          62348
## 31    31                              Tirupathur                          35620
## 32    32                                Tiruppur                         129924
## 33    33                             Tiruvallur                         147517
## 34    34                          Tiruvannamalai                          66415
## 35    35                               Tiruvarur                          47979
## 36    36                                 Vellore                          54997
## 37    37                              Villupuram                          54414
## 38    38                             Virudhunagar                          56736
## 39    39 Airport Surveillance (International)                              0
## 40    40      Airport Surveillance (Domestic)                              0
## 41    41                  Railway Surveillance                              0
## 42 Total                           Grand Total                        3445396
##    Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                               0                             20
## 2                              15                              5
## 3                              33                             48
## 4                               3                             51
## 5                               0                            203
## 6                               0                            216
## 7                               0                             77
## 8                               0                             94
## 9                               0                            404
## 10                              3                              4
## 11                              0                            126
## 12                              0                             47
## 13                              1                            244
## 14                              3                            174
## 15                              0                             39
## 16                              0                             54
## 17                              0                            112
## 18                              0                             44
## 19                              0                              3
## 20                              0                             35
## 21                              0                            135
## 22                              0                             49
## 23                              0                            438
## 24                              0                            117
## 25                              0                             58
## 26                              0                             22
## 27                              0                             45
## 28                              0                            275
## 29                              0                             75
## 30                              0                            427
```

```
## 31                                0                                118
## 32                                0                                 16
## 33                                2                                 10
## 34                                0                                399
## 35                                0                                 38
## 36                                0                               2326
## 37                                0                                174
## 38                                0                                104
## 39                                0                               1276
## 40                                0                               1114
## 41                                0                                428
## 42                               59                               9644
##    Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022         Result
## 1                             0                         19883     Many cases
## 2                             0                        235826     Many cases
## 3                             0                        752349     Many cases
## 4                             0                        330043     Many cases
## 5                             0                         74268     Many cases
## 6                             0                         36192     Many cases
## 7                             0                         37480     Many cases
## 8                             0                        132676     Many cases
## 9                             0                         14461     Many cases
## 10                            0                         94457     Many cases
## 11                            0                         86236     Many cases
## 12                            0                         29758     Many cases
## 13                            0                         59642     Many cases
## 14                            0                         91054     Many cases
## 15                            0                         26498     Many cases
## 16                            0                         25443     Many cases
## 17                            0                         68010     Many cases
## 18                            0                         42135     Many cases
## 19                            0                         14461     Many cases
## 20                            0                         34473     Many cases
## 21                            0                         24682     Many cases
## 22                            0                         53931     Many cases
## 23                            0                        127401     Many cases
## 24                            0                         23838     Many cases
## 25                            0                         32746     Many cases
## 26                            0                         92168     Many cases
## 27                            0                         50603     Many cases
## 28                            0                         64970     Many cases
## 29                            0                         94972     Many cases
## 30                            0                         62775     Many cases
## 31                            0                         35738     Many cases
## 32                            0                        129940     Many cases
## 33                            0                        147529     Many cases
## 34                            0                         66814     Many cases
## 35                            0                         48017     Many cases
## 36                            0                         57323     Many cases
## 37                            0                         54588     Many cases
## 38                            0                         56840     Many cases
## 39                            0                          1276 Not many cases
## 40                            0                          1114 Not many cases
## 41                            0                           428 Not many cases
```

```
## 42                            0                      3455099     Many cases
```

unite

The unite () function from the tidyr package can be used to unite multiple data frame columns into a single column. Here in this data set i have choosed columns District and Total.cases.till.26.05.2022.

```
covid19%>%unite("a",District:Total.cases.till.26.05.2022,remove=FALSE)
```

```
##     S.No                                                a
## 1      1                          Ariyalur_19863_0_20_0_19883
## 2      2                       Chengalpattu_235806_15_5_0_235826
## 3      3                          Chennai_752268_33_48_0_752349
## 4      4                        Coimbatore_329989_3_51_0_330043
## 5      5                          Cuddalore_74065_0_203_0_74268
## 6      6                         Dharmapuri_35976_0_216_0_36192
## 7      7                            Dindigul_37403_0_77_0_37480
## 8      8                             Erode_132582_0_94_0_132676
## 9      9                         Kallakurichi_36118_0_404_0_14461
## 10    10                          Kancheepuram_94448_3_4_0_94457
## 11    11                       Kanniyakumari_86110_0_126_0_86236
## 12    12                                Karur_29711_0_47_0_29758
## 13    13                          Krishnagiri_59397_1_244_0_59642
## 14    14                              Madurai_90880_3_174_0_91054
## 15    15                       Mayiladuthurai_26459_0_39_0_26498
## 16    16                         Nagapattinam_25389_0_54_0_25443
## 17    17                            Namakkal_67898_0_112_0_68010
## 18    18                             Nilgiris_42091_0_44_0_42135
## 19    19                            Perambalur_14458_0_3_0_14461
## 20    20                          Pudukkottai_34438_0_35_0_34473
## 21    21                      Ramanathapuram_24547_0_135_0_24682
## 22    22                              Ranipet_53882_0_49_0_53931
## 23    23                             Salem_126963_0_438_0_127401
## 24    24                           Sivaganga_23721_0_117_0_23838
## 25    25                              Tenkasi_32688_0_58_0_32746
## 26    26                           Thanjavur_92146_0_22_0_92168
## 27    27                                Theni_50558_0_45_0_50603
## 28    28                         Thoothukudi_64695_0_275_0_64970
## 29    29                      Tiruchirappalli_94897_0_75_0_94972
## 30    30                         Tirunelveli_62348_0_427_0_62775
## 31    31                          Tirupathur_35620_0_118_0_35738
## 32    32                           Tiruppur_129924_0_16_0_129940
## 33    33                         Tiruvallur_147517_2_10_0_147529
## 34    34                      Tiruvannamalai_66415_0_399_0_66814
## 35    35                            Tiruvarur_47979_0_38_0_48017
## 36    36                            Vellore_54997_0_2326_0_57323
## 37    37                          Villupuram_54414_0_174_0_54588
## 38    38                        Virudhunagar_56736_0_104_0_56840
## 39    39 Airport Surveillance (International)_0_0_1276_0_1276
## 40    40      Airport Surveillance (Domestic)_0_0_1114_0_1114
## 41    41                       Railway Surveillance_0_0_428_0_428
## 42 Total                  Grand Total_3445396_59_9644_0_3455099
##                                 District Indigenous.Cases.till.25.05.2022
## 1                               Ariyalur                             19863
```

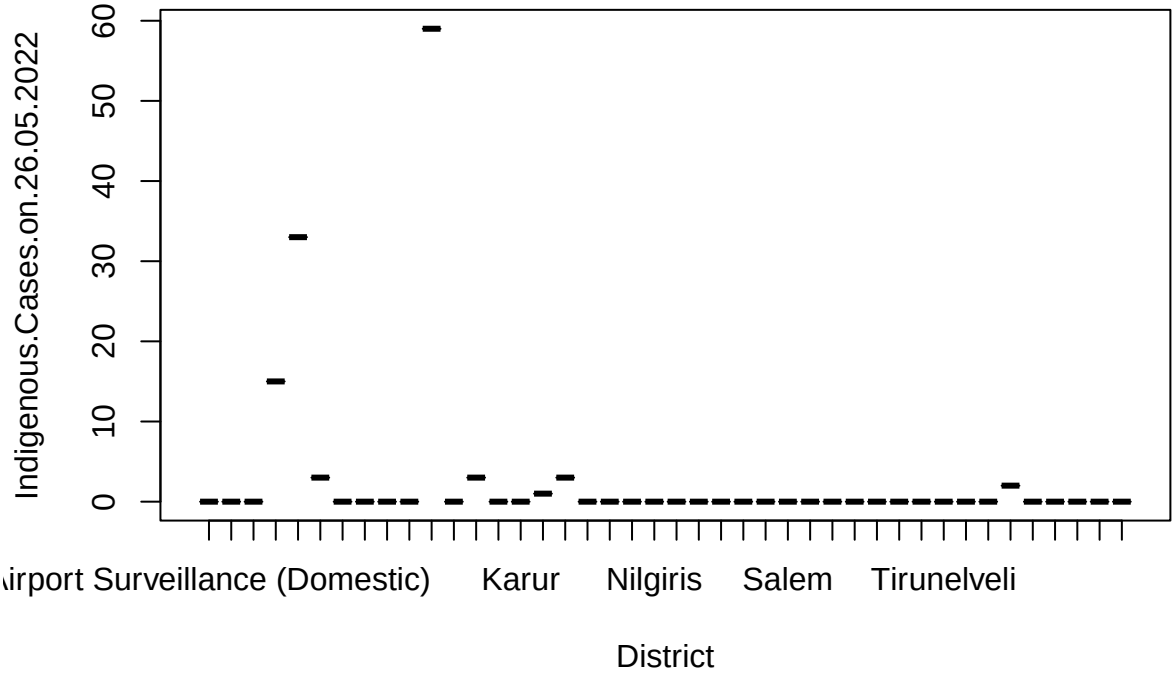
```
## 2                          Chengalpattu                          235806
## 3                               Chennai                          752268
## 4                            Coimbatore                          329989
## 5                             Cuddalore                           74065
## 6                            Dharmapuri                           35976
## 7                              Dindigul                           37403
## 8                                Erode                          132582
## 9                           Kallakurichi                           36118
## 10                          Kancheepuram                           94448
## 11                         Kanniyakumari                           86110
## 12                                 Karur                           29711
## 13                           Krishnagiri                           59397
## 14                               Madurai                           90880
## 15                         Mayiladuthurai                           26459
## 16                          Nagapattinam                           25389
## 17                               Namakkal                           67898
## 18                                Nilgiris                           42091
## 19                             Perambalur                           14458
## 20                             Pudukkottai                           34438
## 21                          Ramanathapuram                           24547
## 22                                 Ranipet                           53882
## 23                                   Salem                          126963
## 24                                Sivaganga                           23721
## 25                                  Tenkasi                           32688
## 26                                Thanjavur                           92146
## 27                                    Theni                           50558
## 28                               Thoothukudi                           64695
## 29                           Tiruchirappalli                           94897
## 30                               Tirunelveli                           62348
## 31                                Tirupathur                           35620
## 32                                  Tiruppur                          129924
## 33                                Tiruvallur                          147517
## 34                           Tiruvannamalai                           66415
## 35                                Tiruvarur                           47979
## 36                                  Vellore                           54997
## 37                                Villupuram                           54414
## 38                              Virudhunagar                           56736
## 39 Airport Surveillance (International)                               0
## 40      Airport Surveillance (Domestic)                               0
## 41                  Railway Surveillance                               0
## 42                           Grand Total                         3445396
##    Indigenous.Cases.on.26.05.2022 Imported.Cases.till.25.05.2022
## 1                               0                             20
## 2                              15                              5
## 3                              33                             48
## 4                               3                             51
## 5                               0                            203
## 6                               0                            216
## 7                               0                             77
## 8                               0                             94
## 9                               0                            404
## 10                              3                              4
## 11                              0                            126
## 12                              0                             47
```

```
## 13                                1                                244
## 14                                3                                174
## 15                                0                                 39
## 16                                0                                 54
## 17                                0                                112
## 18                                0                                 44
## 19                                0                                  3
## 20                                0                                 35
## 21                                0                                135
## 22                                0                                 49
## 23                                0                                438
## 24                                0                                117
## 25                                0                                 58
## 26                                0                                 22
## 27                                0                                 45
## 28                                0                                275
## 29                                0                                 75
## 30                                0                                427
## 31                                0                                118
## 32                                0                                 16
## 33                                2                                 10
## 34                                0                                399
## 35                                0                                 38
## 36                                0                               2326
## 37                                0                                174
## 38                                0                                104
## 39                                0                               1276
## 40                                0                               1114
## 41                                0                                428
## 42                               59                               9644
##    Imported.Cases.on.26.05.2022 Total.cases.till.26.05.2022
## 1                             0                      19883
## 2                             0                     235826
## 3                             0                     752349
## 4                             0                     330043
## 5                             0                      74268
## 6                             0                      36192
## 7                             0                      37480
## 8                             0                     132676
## 9                             0                      14461
## 10                            0                      94457
## 11                            0                      86236
## 12                            0                      29758
## 13                            0                      59642
## 14                            0                      91054
## 15                            0                      26498
## 16                            0                      25443
## 17                            0                      68010
## 18                            0                      42135
## 19                            0                      14461
## 20                            0                      34473
## 21                            0                      24682
## 22                            0                      53931
## 23                            0                     127401
```

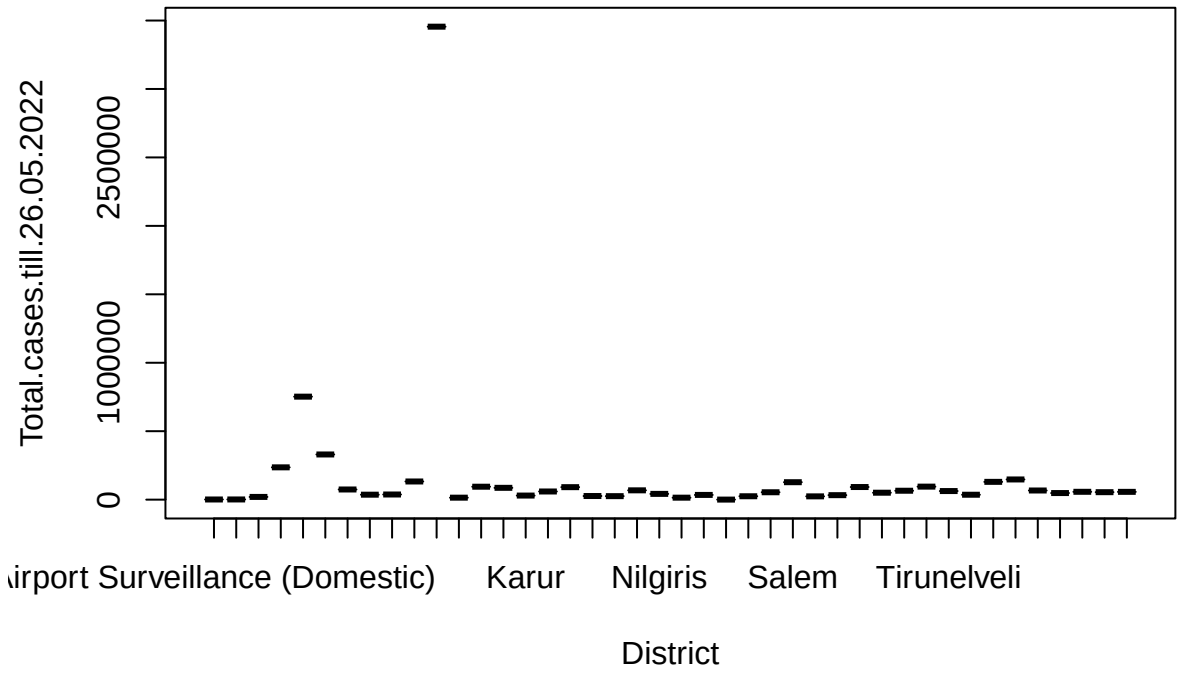
```
## 24                    0                23838
## 25                    0                32746
## 26                    0                92168
## 27                    0                50603
## 28                    0                64970
## 29                    0                94972
## 30                    0                62775
## 31                    0                35738
## 32                    0               129940
## 33                    0               147529
## 34                    0                66814
## 35                    0                48017
## 36                    0                57323
## 37                    0                54588
## 38                    0                56840
## 39                    0                 1276
## 40                    0                 1114
## 41                    0                  428
## 42                    0              3455099
```

Plot representation

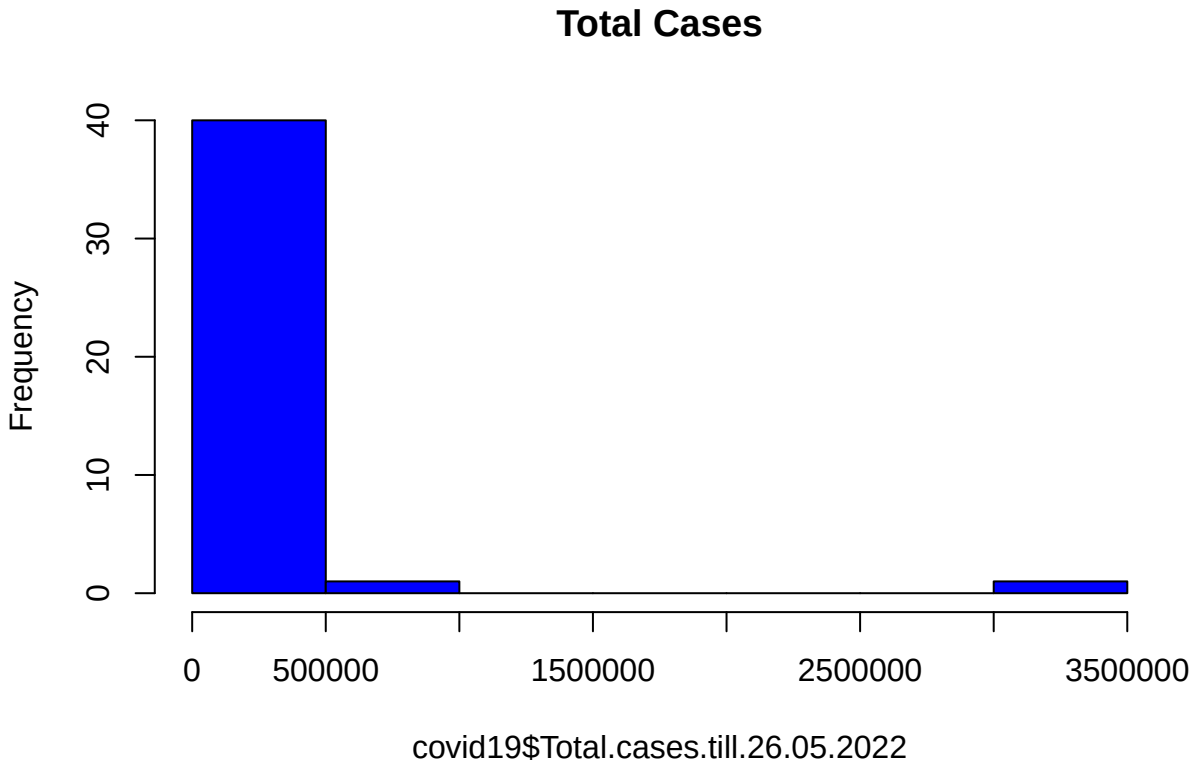
```
boxplot(Indigenous.Cases.on.26.05.2022~District)
```




```
boxplot(Total.cases.till.26.05.2022~District)
```




```
hist(covid19$Total.cases.till.26.05.2022,col = "blue", main="Total Cases")
```



INSIGHTS :

In this Data set we come to know about the Total number of cases till 26.5.2022 District wise by using this dataset we have performed Data manipulation. Through Data manipulation we can perform various functions using that function we can filter the particular column we need arrange them in Ascending and descending.

By filter we can find similar number of cases in Different Districts