Kuis_DS_D

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##Intro ##Baca Petunjuk Terlebih Dahulu!

1. Kerjakan soal-soal yang ada! Jangan lupa tulis NAMA dan NIM pada author!
2. Kuis terdiri dari 2 bagian yaitu bagian pertama dan bagian kedua
3. Jawablah dengan mengisi chunk dibawah soal!
4. Durasi pengerjaan sesuai selama 12 jam, dikumpulkan maksimal Jum'at, 29 Oktober 2021 pukul 21.00 WIB
5. No toleransi pengumpulan telat. Ingat, telat kemungkinan terburuk ga ada nilai kuis!
6. Misal soal rancu bisa menghubungi asisten terkait
7. Export hasil pekerjaan dalam format PDF/Word & sesuaikan nama file sesuai NIM masing-masing.

##BAGIAN PERTAMA

1. Load library apa saja yang kira-kira digunakan! Lalu gunakan data 'us_contagious_diseases'! **point 1**

```
library(dslabs)
library(dplyr)
```

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

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

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

```
data(us_contagious_diseases)
```

2. Tampilkan semua nama kolom pada data frame yang ada! **point 5**

```
names(us_contagious_diseases)
```

```
## [1] "disease"         "state"           "year"            "weeks_reporting"
## [5] "count"           "population"
```

3. Tampilkan tipe data pada kolom penyakit! **point 5**

```
class(us_contagious_diseases$disease)
```

```
## [1] "factor"
```

4. Tampilkan 10 data penyakit rubella teratas diurutkan berdasarkan jumlah kasusnya dan terjadi pada antara tahun 2000 dan 2005! **point 11**

```
rubella=us_contagious_diseases[which(us_contagious_diseases$disease == "Rubella"),]
datax=rubella[which(rubella$year>=2000&rubella$year<=2005),]
x<-arrange(.data=datax, -count)
head(x,10)
```

```
##    disease          state year weeks_reporting count population
## 1  Rubella North Carolina 2000              36    82    8049313
## 2  Rubella South Carolina 2000              40    14    4012012
## 3  Rubella     California 2000              32    11   33871648
## 4  Rubella  Massachusetts 2000              39     6    6349097
## 5  Rubella          Texas 2000              34     5   20851820
## 6  Rubella        Florida 2001              32     4   16272186
## 7  Rubella        Alabama 2000              37     3    4447100
## 8  Rubella       Illinois 2001              46     3   12501805
## 9  Rubella     California 2002              29     2   34529758
## 10 Rubella        Florida 2000              33     2   15982378
```

5. Klasifikasikan data tersebut berdasarkan jumlah kasusnya dengan kondisi : -jumlah kasus kurang dari 500 dikategorikan sebagai “Biasa” -jumlah kasus lebih dari 2000 dikategorikan sebagai “Azab -jumlah kasus antara kedua kondisi diatas dikategorikan sebagai”Cobaan"

NB : jika dirasa jumlah data hasilnya terlalu banyak boleh menggunakan fungsi top_n() atau head()**point 10**

```
df1<-mutate(us_contagious_diseases, category=case_when(count<500~"Biasa",count>2000~"Azab",TRUE~"Cobaan
head(df1,10)
```

```
##        disease   state year weeks_reporting count population category
## 1  Hepatitis A Alabama 1966              50   321    3345787    Biasa
## 2  Hepatitis A Alabama 1967              49   291    3364130    Biasa
## 3  Hepatitis A Alabama 1968              52   314    3386068    Biasa
## 4  Hepatitis A Alabama 1969              49   380    3412450    Biasa
## 5  Hepatitis A Alabama 1970              51   413    3444165    Biasa
## 6  Hepatitis A Alabama 1971              51   378    3481798    Biasa
## 7  Hepatitis A Alabama 1972              45   342    3524543    Biasa
## 8  Hepatitis A Alabama 1973              45   467    3571209    Biasa
## 9  Hepatitis A Alabama 1974              45   244    3620548    Biasa
## 10 Hepatitis A Alabama 1975              46   286    3671246    Biasa
```

6. Tambahkan variabel baru berisi data ‘us_contagious_diseases’ dengan tambahan kolom baru dengan nama “category” yang isinya merupakan implementasi nomor 5 dan kolom “rate” yang isinya merupakan hasil bagi jumlah kasus dengan populasi dikalikan 100000! **point 10**

```r
df2<-mutate(df1, rate=count/population*100000)
head(df2,10)
```

```
##        disease   state year weeks_reporting count population category      rate
## 1  Hepatitis A Alabama 1966              50   321    3345787    Biasa  9.594155
## 2  Hepatitis A Alabama 1967              49   291    3364130    Biasa  8.650082
## 3  Hepatitis A Alabama 1968              52   314    3386068    Biasa  9.273293
## 4  Hepatitis A Alabama 1969              49   380    3412450    Biasa 11.135694
## 5  Hepatitis A Alabama 1970              51   413    3444165    Biasa 11.991295
## 6  Hepatitis A Alabama 1971              51   378    3481798    Biasa 10.856460
## 7  Hepatitis A Alabama 1972              45   342    3524543    Biasa  9.703386
## 8  Hepatitis A Alabama 1973              45   467    3571209    Biasa 13.076804
## 9  Hepatitis A Alabama 1974              45   244    3620548    Biasa  6.739311
## 10 Hepatitis A Alabama 1975              46   286    3671246    Biasa  7.790271
```

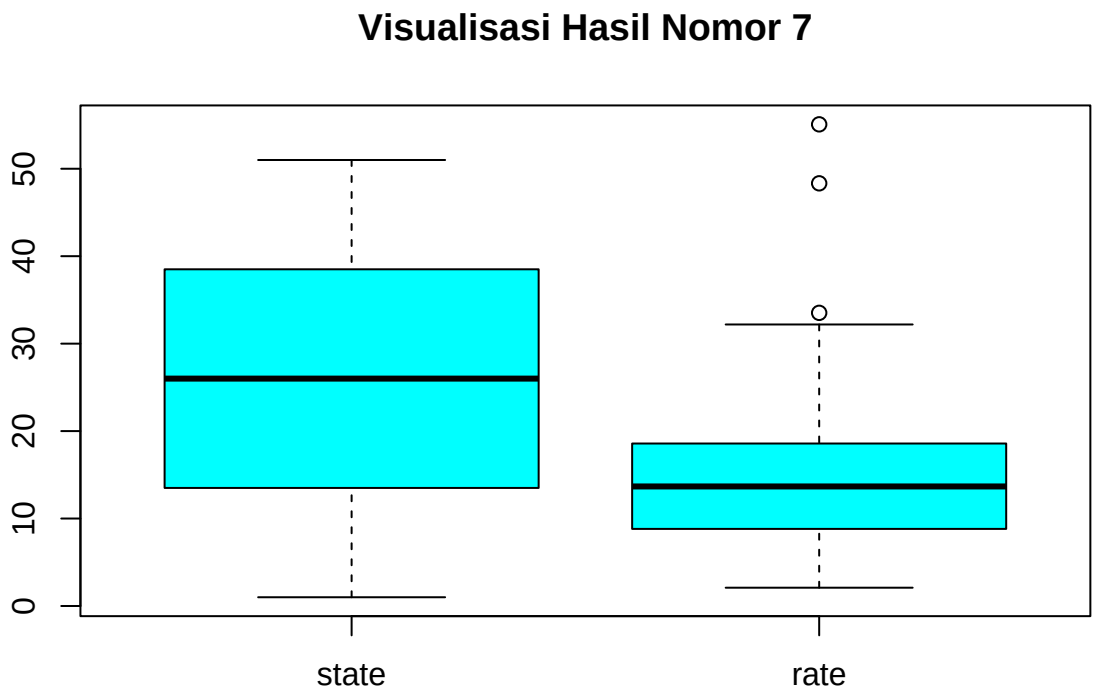
7. Tampilkan kesimpulan pada data nomor 6 dikelompokkan berdasarkan negara bagian yang isinya nama negara bagian dan rata-rata rate per negara bagian! **point 8**

```r
dataa <- select(df2, state, rate)
dataa1<-distinct(dataa, state, .keep_all = TRUE)
summary(dataa1)
```

```
##         state          rate
##  Alabama   : 1   Min.   : 2.089
##  Alaska    : 1   1st Qu.: 8.816
##  Arizona   : 1   Median :13.670
##  Arkansas  : 1   Mean   :15.946
##  California: 1   3rd Qu.:18.578
##  Colorado  : 1   Max.   :55.077
##  (Other)   :45
```

8. Lakukan visualisasi pada hasil nomor 7!(Bebas menggunakan plot, boxplot, hist, ggplot2 dsb) **point 5**

```r
boxplot(dataa1, col=c("cyan"), cex.main=1.2, main="Visualisasi Hasil Nomor 7")
```



##BAGIAN KEDUA

1. Load library tambahan untuk import file! **point 2**

```
library(dplyr)
fdata=read.csv("worldwide_covid_data.csv")
```

2. Tampilkan informasi rinci tentang struktur dataset yang digunakan! **point 5**

```
str(fdata)
```

```
## 'data.frame':    196 obs. of  10 variables:
##  $ Country                      : chr  "Afghanistan" "Albania" "Algeria" "Andorra" ...
##  $ Total_Cases                  : int  156071 182610 205990 15425 64033 4031 5283000 298069 15848 163
##  $ Total_Deaths                 : int  7262 2888 5899 130 1702 99 115866 6112 171 1669 ...
##  $ Total_Recovered              : num  128000 172464 141335 15205 52833 ...
##  $ Active_Cases                 : num  20809 7258 58756 90 9498 ...
##  $ Total_Cases_per1M_population: int  3894 63546 4589 199217 1872 40718 115496 100342 147611 6329 ..
##  $ Deaths_per1M_population      : int  181 1005 131 1679 50 1000 2533 2058 1593 64 ...
##  $ Total_Tests                  : num  771431 1289520 230861 193595 1092363 ...
##  $ Tests_per1M_population       : num  19247 448738 5143 2500323 31933 ...
##  $ Population                   : int  40080392 2873656 44892255 77428 34207984 98997 45741769 297054
```

3. Tampilkan 10 nama Negara dengan jumlah kasus Covid-19 yang terkonfirmasi dari paling banyak ke paling sedikit! **point 8**

```
df<-data.frame(fdata)
x<-arrange(.data=df, desc(Total_Cases))
head(x[1:2],10)
```

```
##       Country Total_Cases
## 1         USA    46497719
## 2       India    34215653
## 3      Brazil    21748984
## 4          UK     8853227
## 5      Russia     8316019
## 6      Turkey     7909111
## 7      France     7133766
## 8        Iran     5877456
## 9   Argentina     5283000
## 10      Spain     5004143
```

4. Buat kolom baru bernama Rate_Deaths yang berisi rasio korban Covid-19 yang meninggal dengan yang terkonfirmasi! **point 11**

```
new_df1<-mutate(fdata, Rate_Deaths=Total_Deaths/Total_Cases)
new_df1
```

```
##                    Country Total_Cases Total_Deaths Total_Recovered
## 1              Afghanistan      156071         7262          128000
## 2                  Albania      182610         2888          172464
## 3                  Algeria      205990         5899          141335
## 4                  Andorra       15425          130           15205
## 5                   Angola       64033         1702           52833
## 6       Antigua and Barbuda        4031           99            3541
## 7                Argentina     5283000       115866         5149181
## 8                  Armenia      298069         6112          263002
## 9                    Aruba       15848          171           15513
## 10               Australia      163866         1669          130922
## 11                 Austria      804825        11279          760336
## 12              Azerbaijan      520068         6939          486426
## 13                 Bahamas       22259          642           20261
## 14                 Bahrain      276635         1393          274640
## 15              Bangladesh     1568257        27834         1532180
## 16                Barbados       16033          143           10429
## 17                 Belarus      590226         4546          562091
## 18                 Belgium     1333947        25914         1209523
## 19                  Belize       26152          482           22957
## 20                   Benin       24678          161           23971
## 21                 Bermuda        5625           98            5400
## 22                  Bhutan        2617            3            2610
## 23                 Bolivia      510470        18903          473195
## 24  Bosnia and Herzegovina      250165        11423          192218
## 25                Botswana      185985         2402          182304
## 26                  Brazil    21748984       606293        20944087
## 27                  Brunei       12595           82           10047
## 28                Bulgaria      582122        23440          471403
## 29            Burkina Faso       14793          214           14287
```

```
## 30                Burundi       19945          38           773
## 31             Cabo Verde       38151         349         37524
## 32               Cambodia      118111        2758        113791
## 33               Cameroon      100289        1600         80433
## 34                 Canada     1704391       28841       1649582
## 35                    CAR       11518         100          6859
## 36                   Chad        5067         174          4874
## 37                  Chile     1684608       37691       1633518
## 38                  China       96899        4636         91620
## 39               Colombia     4994014      127133       4838063
## 40                Comoros        4233         147          4048
## 41                  Congo       16868         249         12421
## 42             Costa Rica      557922        6997        490672
## 43                Croatia      449365        9090        422331
## 44                   Cuba      947935        8201        934350
## 45             CuraÃ§ao       17027         173         16703
## 46                 Cyprus      121986         571         90755
## 47                Czechia     1735552       30648       1669501
## 48                Denmark      379078        2703        362497
## 49               Djibouti       13461         181         13215
## 50               Dominica        4659          30          4248
## 51     Dominican Republic      377385        4114        367642
## 52                    DRC       57453        1091         50930
## 53                Ecuador      515659       32953        443880
## 54                  Egypt      326379       18375        275637
## 55            El Salvador      113422        3596         94980
## 56      Equatorial Guinea       13236         163         12565
## 57                Eritrea        6798          45          6717
## 58                Estonia      184509        1477        161349
## 59               Eswatini       46390        1242         45075
## 60               Ethiopia      363240        6393        336914
## 61                   Fiji       52028         673         48955
## 62                Finland      155547        1150         46000
## 63                 France     7133766      117555       6921146
## 64          French Guiana       44347         302          9995
## 65       French Polynesia       40178         635         33500
## 66                  Gabon       34898         230         28567
## 67                 Gambia        9959         340          9603
## 68                Georgia      698944        9831        639564
## 69                Germany     4501021       95794       4237100
## 70                  Ghana      130008        1174        126976
## 71                 Greece      724571       15707        671596
## 72                Grenada        5824         197          5503
## 73             Guadeloupe       54350         736          2250
## 74              Guatemala      596417       14797        574566
## 75                 Guinea       30645         385         29501
## 76          Guinea-Bissau        6133         141          5492
## 77                 Guyana       35170         899         30933
## 78                  Haiti       23619         662         20249
## 79               Honduras      374783       10211        115547
## 80              Hong Kong       12331         213         12029
## 81                Hungary      852214       30611        795828
## 82                Iceland       13236          33         12427
## 83                  India    34215653      455684      33597339
```

```
## 84              Indonesia     4241090       143270        4084831
## 85                   Iran     5877456       125519        5443243
## 86                   Iraq     2049240        23024        1991575
## 87                Ireland      433902         5369         379308
## 88           Isle of Man        9327           57           8492
## 89                 Israel     1324897         8063        1305834
## 90                  Italy     4747773       131904        4540823
## 91            Ivory Coast       61221          691          59852
## 92                Jamaica       88480         2184          56944
## 93                  Japan     1717104        18207        1693826
## 94                 Jordan      854758        10976         824993
## 95             Kazakhstan      932688        12001         876699
## 96                  Kenya      252839         5263         246390
## 97                 Kuwait      412578         2461         409679
## 98             Kyrgyzstan      180865         2661         175302
## 99                   Laos       37018           56           6558
## 100                Latvia      205577         3076         169472
## 101                Lebanon     638581         8465         613770
## 102                Lesotho      21598          657          12227
## 103                Liberia       5811          287           5458
## 104                  Libya      354866         5033         290784
## 105          Liechtenstein        3545           61           3435
## 106              Lithuania      392425         5693         349424
## 107             Luxembourg       81124          842          78433
## 108             Madagascar       42898          958          41322
## 109                 Malawi       61766         2296          57177
## 110               Malaysia     2442224        28576        2340390
## 111               Maldives       87186          242          85378
## 112                   Mali       15879          559          14597
## 113                  Malta       37580          460          36505
## 114             Martinique       42634          670            104
## 115             Mauritania       37032          792          35736
## 116              Mauritius       17416          160           1854
## 117                Mayotte       20497          182           2964
## 118                 Mexico     3788986       286888        3153067
## 119                Moldova      330799         7576         308832
## 120                 Monaco        3399           36           3337
## 121               Mongolia      353504         1689         313256
## 122             Montenegro      141834         2075         135571
## 123                Morocco      944803        14636         925125
## 124             Mozambique      151243         1929         148979
## 125                Myanmar      495898        18582         460224
## 126                Namibia      128859         3550         124468
## 127                  Nepal      810298        11372         788630
## 128            Netherlands     2093606        18340        1978158
## 129          New Caledonia       10687          261             55
## 130            New Zealand        5899           28           4567
## 131              Nicaragua       16422          207           4225
## 132                  Niger        6260          208           5935
## 133                Nigeria      211330         2884         202803
## 134        North Macedonia      200412         7072         187149
## 135                 Norway      202554          895          88952
## 136                   Oman      304205         4111         299558
## 137               Pakistan     1270322        28405        1217935
```

```
## 138              Palestine      421916         4383         410176
## 139                 Panama      471884         7314         462287
## 140       Papua New Guinea       28209          335          24502
## 141               Paraguay      460815        16233         444303
## 142                   Peru     2197052       200118             NA
## 143            Philippines     2765672        42077        2669953
## 144                 Poland     2982143        76540        2690118
## 145               Portugal     1086280        18141        1037261
## 146                  Qatar      238742          609         237088
## 147               RÃ©union       54668          374          53879
## 148                Romania     1587880        45503        1345324
## 149                 Russia     8316019       232775        7213584
## 150                 Rwanda       99474         1321          45512
## 151               S. Korea      356305         2797         329658
## 152            Saint Lucia       12465          250          11842
## 153           Saint Martin        3850           55           1399
## 154             San Marino        5509           92           5383
## 155  Sao Tome and Principe        3705           56           3211
## 156           Saudi Arabia      548368         8782         537376
## 157                Senegal       73897         1878          71995
## 158                 Serbia     1111957         9634         978736
## 159             Seychelles       22086          119          21747
## 160           Sierra Leone        6396          121           4393
## 161              Singapore      179095          339         148408
## 162           Sint Maarten        4484           75           4370
## 163               Slovakia      460281        12935         414545
## 164               Slovenia      322912         4704         297950
## 165                Somalia       21269         1180           9927
## 166           South Africa     2920109        88987        2812320
## 167            South Sudan       12293          133          12008
## 168                  Spain     5004143        87238        4859415
## 169              Sri Lanka      537201        13654         504003
## 170 St. Vincent Grenadines        4905           64           3060
## 171                  Sudan       40238         3099          32905
## 172               Suriname       48548         1069          29449
## 173                 Sweden     1168271        14964        1135105
## 174            Switzerland      867197        11218         822212
## 175                  Syria       42076         2526          25926
## 176                 Taiwan       16380          847          15420
## 177             Tajikistan       17086          124          16960
## 178               Tanzania       26115          725             NA
## 179               Thailand     1875315        18922        1758297
## 180            Timor-Leste       19778          121          19605
## 181                   Togo       26011          242          25474
## 182    Trinidad and Tobago       56013         1655          49616
## 183                Tunisia      712013        25213         685508
## 184                 Turkey     7909111        69559        7346279
## 185                    UAE      739471         2134         733504
## 186                 Uganda      125788         3200          96575
## 187                     UK     8853227       139834        7198408
## 188                Ukraine     2825733        65628        2401705
## 189                Uruguay      392585         6074         384702
## 190                    USA    46497719       759932       36375189
## 191             Uzbekistan      184563         1312         180305
```

```
## 192              Venezuela      402407         4836          384305
## 193                Vietnam      896174        21802          810290
## 194                  Yemen        9711         1858            6309
## 195                 Zambia      209648         3660          205873
## 196               Zimbabwe      132724         4674          127497
##     Active_Cases Total_Cases_per1M_population Deaths_per1M_population
## 1          20809                         3894                     181
## 2           7258                        63546                    1005
## 3          58756                         4589                     131
## 4             90                       199217                    1679
## 5           9498                         1872                      50
## 6            391                        40718                    1000
## 7          17953                       115496                    2533
## 8          28955                       100342                    2058
## 9            164                       147611                    1593
## 10         31275                         6329                      64
## 11         33210                        88695                    1243
## 12         26703                        50691                     676
## 13          1356                        55900                    1612
## 14           602                       155487                     783
## 15          8243                         9399                     167
## 16          5461                        55701                     497
## 17         23589                        62489                     481
## 18         98510                       114442                    2223
## 19          2713                        64237                    1184
## 20           546                         1968                      13
## 21           127                        90762                    1581
## 22             4                         3343                       4
## 23         18372                        42960                    1591
## 24         46524                        76881                    3511
## 25          1279                        77043                     995
## 26        198604                       101371                    2826
## 27          2466                        28432                     185
## 28         87279                        84617                    3407
## 29           292                          683                      10
## 30         19134                         1614                       3
## 31           278                        67651                     619
## 32          1562                         6938                     162
## 33         18256                         3658                      58
## 34         25968                        44643                     755
## 35          4559                         2331                      20
## 36            19                          297                      10
## 37         13399                        87140                    1950
## 38           643                           67                       3
## 39         28818                        96789                    2464
## 40            38                         4735                     164
## 41          4198                         2961                      44
## 42         60253                       108222                    1357
## 43         17944                       110358                    2232
## 44          5384                        83758                     725
## 45           151                       103208                    1049
## 46         30660                       100076                     468
## 47         35403                       161670                    2855
## 48         13878                        65144                     465
```

```
## 49            65          13369           180
## 50           381          64509           415
## 51          5629          34335           374
## 52          5432            617            12
## 53         38826          28655          1831
## 54         32367           3112           175
## 55         14846          17371           551
## 56           508           9044           111
## 57            36           1883            12
## 58         21683         138968          1112
## 59            73          39448          1056
## 60         19933           3060            54
## 61          2400          57490           744
## 62        108397          28016           207
## 63         95065         108973          1796
## 64         34050         143588           978
## 65          6043         141948          2243
## 66          6101          15208           100
## 67            16           3974           136
## 68         49549         175655          2471
## 69        168127          53496          1139
## 70          1858           4072            37
## 71         37268          69967          1517
## 72           124          51444          1740
## 73         51364         135802          1839
## 74          7054          32500           806
## 75           759           2253            28
## 76           500           3023            69
## 77          3338          44432          1136
## 78          2708           2039            57
## 79        249025          37064          1010
## 80            89           1627            28
## 81         25775          88514          3179
## 82           776          38459            96
## 83        162630          24477           326
## 84         12989          15293           517
## 85        308694          68817          1470
## 86         34641          49488           556
## 87         49225          86601          1072
## 88           778         108927           666
## 89         11000         142065           865
## 90         75046          78678          2186
## 91           678           2248            25
## 92         29352          29709           733
## 93          5071          13631           145
## 94         18789          82693          1062
## 95         43988          48903           629
## 96          1186           4570            95
## 97           438          94766           565
## 98          2902          27133           399
## 99         30404           4993             8
## 100        33029         110603          1655
## 101        16346          94114          1248
## 102         8714           9978           304
```

```
## 103          66          1115          55
## 104       59049          50737         720
## 105          49          92626        1594
## 106       37308         146855        2130
## 107        1849         126881        1317
## 108         618           1499          33
## 109        2293           3123         116
## 110       73258          74205         868
## 111        1566         157642         438
## 112         723            756          27
## 113         615          84813        1038
## 114       41860         113726        1787
## 115         504           7699         165
## 116       15402          13664         126
## 117       17351          72823         647
## 118      349031          28986        2195
## 119       14391          82255        1884
## 120          26          85816         909
## 121       38559         105595         505
## 122        4188         225789        3303
## 123        5042          25204         390
## 124         335           4667          60
## 125       17092           9034         339
## 126         841          49534        1365
## 127       10296          27168         381
## 128       97108         121829        1067
## 129       10371          36965         903
## 130        1304           1179           6
## 131       11990           2441          31
## 132         117            247           8
## 133        5643            993          14
## 134        6191          96201        3395
## 135      112707          36982         163
## 136         536          57645         779
## 137       23982           5608         125
## 138        7357          80254         834
## 139        2283         107146        1661
## 140        3372           3076          37
## 141         279          63580        2240
## 142          NA          65435        5960
## 143       53642          24804         377
## 144      215485          78909        2025
## 145       30878         106943        1786
## 146        1045          85028         217
## 147         415          60492         414
## 148      197053          83272        2386
## 149      869660          56952        1594
## 150       52641           7438          99
## 151       23850           6942          54
## 152         373          67476        1353
## 153        2396          97387        1391
## 154          34         161910        2704
## 155         438          16503         249
## 156        2210          15435         247
```

```
## 157          24                      4266                    108
## 158      123587                    127944                   1109
## 159         220                    222756                   1200
## 160        1882                       781                     15
## 161       30348                     30299                     57
## 162          39                    103040                   1723
## 163       32801                     84252                   2368
## 164       20258                    155297                   2262
## 165       10162                      1291                     72
## 166       18802                     48432                   1476
## 167         152                      1082                     12
## 168       57490                    106975                   1865
## 169       19544                     24950                    634
## 170        1781                     44029                    574
## 171        4234                       890                     69
## 172       18030                     81792                   1801
## 173       18202                    114737                   1470
## 174       33767                     99245                   1284
## 175       13624                      2330                    140
## 176         113                       686                     35
## 177           2                      1740                     13
## 178          NA                       421                     12
## 179       98096                     26778                    270
## 180          52                     14635                     90
## 181         295                      3048                     28
## 182        4742                     39854                   1178
## 183        1292                     59427                   2104
## 184      493273                     92468                    813
## 185        3833                     73596                    212
## 186       26013                      2641                     67
## 187     1514985                    129517                   2046
## 188      358400                     65128                   1513
## 189        1809                    112502                   1741
## 190     9362598                    139399                   2278
## 191        2946                      5411                     38
## 192       13266                     14204                    171
## 193       64082                      9099                    221
## 194        1544                       316                     61
## 195         115                     10999                    192
## 196         553                      8762                    309
##     Total_Tests Tests_per1M_population Population Rate_Deaths
## 1        771431                  19247   40080392 0.046530105
## 2       1289520                 448738    2873656 0.015815125
## 3        230861                   5143   44892255 0.028637312
## 4        193595                2500323      77428 0.008427877
## 5       1092363                  31933   34207984 0.026580045
## 6         17674                 178531      98997 0.024559663
## 7      24896917                 544293   45741769 0.021931857
## 8       2018614                 679544    2970540 0.020505319
## 9        177885                1656856     107363 0.010790005
## 10     42692931                1649058   25889279 0.010185151
## 11     95541800               10529092    9074078 0.014014227
## 12      5131033                 500125   10259494 0.013342486
## 13       155049                 389383     398191 0.028842266
```

```
## 14      6840598              3844860    1779154 0.005035516
## 15     10262107                61505  166849261 0.017748366
## 16       378335              1314398     287839 0.008919104
## 17      9415479               996850    9445227 0.007702134
## 18     21405101              1836392   11656062 0.019426559
## 19       303238               744837     407120 0.018430713
## 20       604310                48190   12540234 0.006524029
## 21       586598              9465075      61975 0.017422222
## 22      1192940              1523957     782791 0.001146351
## 23      2516925               211817   11882528 0.037030580
## 24      1291186               396810    3253915 0.045661863
## 25      1811943               750584    2414043 0.012915020
## 26     63776166               297257  214549103 0.027876842
## 27       482763              1089773     442994 0.006510520
## 28      5378292               781788    6879479 0.040266473
## 29       222837                10290   21655917 0.014466302
## 30       345742                27983   12355639 0.001905239
## 31       211025               374201     563935 0.009147860
## 32      2601505               152819   17023399 0.023350916
## 33      1751774                63901   27413866 0.015953893
## 34     45819418              1200158   38177832 0.016921587
## 35        60228                12191    4940197 0.008682063
## 36       148082                 8688   17044655 0.034339846
## 37     23240554              1202165   19332246 0.022373751
## 38    160000000               111163 1439323776 0.047843631
## 39     26610010               515730   51596762 0.025457077
## 40           NA                   NA     893947 0.034727144
## 41       188207                33039    5696509 0.014761679
## 42      2524241               489634    5155359 0.012541180
## 43      3048235               748604    4071891 0.020228545
## 44     10404761               919351   11317505 0.008651437
## 45       305800              1853592     164977 0.010160334
## 46      9420908              7728815    1218933 0.004680865
## 47     40033548              3729200   10735157 0.017658935
## 48     85395099             14675037    5819072 0.007130459
## 49       234424               232817    1006902 0.013446252
## 50        89602              1240647      72222 0.006439150
## 51      2187112               198989   10991110 0.010901334
## 52       306299                 3289   93135138 0.018989435
## 53      1914667               106397   17995480 0.063904635
## 54      3693367                35218  104872082 0.056299578
## 55      1357788               207953    6529311 0.031704608
## 56       238486               162960    1463460 0.012314899
## 57        23693                 6561    3611001 0.006619594
## 58      2097590              1579856    1327710 0.008005030
## 59       367421               312439    1175976 0.026773011
## 60      3663817                30865  118704314 0.017599934
## 61       436822               482677     904999 0.012935343
## 62      7411266              1334868    5552061 0.007393264
## 63    151204954              2309749   65463804 0.016478673
## 64       425046              1376221     308850 0.006809931
## 65        26355                93112     283047 0.015804669
## 66      1305320               568833    2294735 0.006590636
## 67       103948                41483    2505809 0.034139974
```

```
## 68      9992057              2511151    3979075 0.014065505
## 69     73348901               871781   84136868 0.021282727
## 70      1842458                57711   31925467 0.009030214
## 71     25123079              2425959   10355939 0.021677655
## 72        79955               706254     113210 0.033825549
## 73       495286              1237553     400214 0.013541858
## 74      2851620               155390   18351317 0.024809823
## 75       564994                41542   13600567 0.012563224
## 76       102067                50301    2029112 0.022990380
## 77       348832               440694     791551 0.025561558
## 78       120507                10402   11585458 0.028028282
## 79      1084755               107276   10111812 0.027245099
## 80     26499519              3497333    7577065 0.017273538
## 81      7301452               758354    9628020 0.035919382
## 82      1127289              3275479     344160 0.002493200
## 83    601901543               430586 1397864972 0.013317998
## 84     45541632               164214  277330765 0.033781410
## 85     32619228               381924   85407642 0.021356008
## 86     15718588               379597   41408566 0.011235385
## 87      7897226              1576172    5010383 0.012373762
## 88       128771              1503877      85626 0.006111290
## 89     29094533              3119723    9326000 0.006085756
## 90    101911219              1688819   60344656 0.027782289
## 91      1066678                39164   27236329 0.011286977
## 92       635655               213437    2978192 0.024683544
## 93     26183287               207860  125966129 0.010603318
## 94     10809943              1045806   10336473 0.012841061
## 95     11575012               606902   19072287 0.012867111
## 96      2682247                48479   55327825 0.020815618
## 97      4741080              1088988    4353658 0.005964933
## 98      1766598               265026    6665765 0.014712631
## 99       611160                82428    7414455 0.001512778
## 100     4831287              2599288    1858696 0.014962763
## 101     4780275               704520    6785153 0.013255953
## 102      234404               108289    2164610 0.030419483
## 103      128246                24597    5213866 0.049389090
## 104     1771282               253249    6994233 0.014182818
## 105       49126              1283602      38272 0.017207334
## 106     5482792              2051800    2672187 0.014507231
## 107     3579957              5599168     639373 0.010379173
## 108      249510                 8716   28626018 0.022332043
## 109      423467                21410   19779198 0.037172554
## 110    33633342              1021927   32911686 0.011700810
## 111     1588558              2872291     553063 0.002775675
## 112      448825                21356   21016578 0.035203728
## 113     1211456              2734096     443092 0.012240553
## 114      376921              1005439     374882 0.015715157
## 115      484600               100745    4810167 0.021386909
## 116      358675               281413    1274549 0.009186955
## 117      176919               628569     281463 0.008879348
## 118    11250436                86068  130715840 0.075716300
## 119     1985799               493783    4021606 0.022902125
## 120       54960              1387598      39608 0.010591350
## 121     4030048              1203815    3347729 0.004777881
```

```
## 122      803043              1278383     628171 0.014629778
## 123    10030332               267573   37486335 0.015491060
## 124      936296                28893   32405166 0.012754309
## 125     4771253                86924   54890141 0.037471415
## 126      743492               285803    2601412 0.027549492
## 127     4386567               147072   29825911 0.014034343
## 128    17988698              1046778   17184822 0.008760005
## 129       42756               147888     289111 0.024422195
## 130     3979577               795581    5002100 0.004746567
## 131          NA                   NA    6728281 0.012605042
## 132      169153                 6671   25355726 0.033226837
## 133     3298966                15499  212851076 0.013646903
## 134     1369624               657442    2083261 0.035287308
## 135     8088217              1476745    5477058 0.004418575
## 136    25000000              4737348    5277214 0.013513913
## 137    20610681                90984  226531131 0.022360472
## 138     2619049               498180    5257230 0.010388324
## 139     4040000               917325    4404110 0.015499572
## 140      207207                22597    9169851 0.011875643
## 141     1886023               260219    7247837 0.035226718
## 142    18867422               561929   33576160 0.091084781
## 143    22740209               203948  111500195 0.015214024
## 144    21925993               580176   37791984 0.025666107
## 145    19736210              1943014   10157522 0.016700114
## 146     2804976               998992    2807805 0.002550871
## 147     1279618              1415936     903726 0.006841297
## 148    14446331               757602   19068495 0.028656448
## 149   205800000              1409426  146016918 0.027991158
## 150     3076863               230063   13373978 0.013279852
## 151    15628311               304483   51327324 0.007850016
## 152       85636               463569     184732 0.020056157
## 153       54303              1373612      39533 0.014285714
## 154       82601              2427656      34025 0.016699946
## 155       14689                65427     224510 0.015114710
## 156    30140728               848388   35527051 0.016014793
## 157      833323                48104   17323407 0.025413752
## 158     6205905               714063    8690979 0.008664004
## 159       21504               216886      99149 0.005388029
## 160      160729                19625    8190217 0.018918074
## 161    20667026              3496411    5910925 0.001892850
## 162       53105              1220328      43517 0.016726137
## 163     3874010               709120    5463127 0.028102398
## 164     1698057               816643    2079315 0.014567436
## 165      239292                14524   16475414 0.055479806
## 166    18407943               305310   60292708 0.030473862
## 167      247059                21736   11366444 0.010819165
## 168    66213858              1415472   46778641 0.017433155
## 169     5381256               249925   21531515 0.025416930
## 170       85741               769640     111404 0.013047910
## 171      238579                 5279   45194436 0.077016750
## 172      145862               245744     593552 0.022019445
## 173    13154558              1291917   10182198 0.012808672
## 174    11566572              1323715    8737965 0.012935930
## 175      103566                 5735   18059157 0.060034224
```

```
## 176     7246326                303529   23873571 0.051709402
## 177          NA                    NA    9819148 0.007257404
## 178          NA                    NA   61967997 0.027761823
## 179    14913135                212951   70030726 0.010090038
## 180      169501                125421    1351460 0.006117909
## 181      543576                 63698    8533655 0.009303756
## 182      382242                271970    1405458 0.029546712
## 183     3053773                254876   11981402 0.035410870
## 184    95211266               1113144   85533610 0.008794794
## 185    91908560               9147256   10047665 0.002885847
## 186     1785306                 37478   47636643 0.025439629
## 187   325510859               4762015   68355696 0.015794693
## 188    14154508                326236   43387372 0.023225124
## 189     3785389               1084766    3489589 0.015471809
## 190   692816053               2077042  333558957 0.016343425
## 191     1377915                 40399   34107349 0.007108684
## 192     3359014                118568   28329745 0.012017684
## 193    42517091                431682   98491625 0.024327865
## 194      265253                  8643   30689226 0.191329420
## 195     2578545                135286   19059950 0.017457834
## 196     1490416                 98393   15147568 0.035215937
```

5. Negara mana yang memiliki rasio kematian Covid-19 tertinggi dan terendah? Tampilkan nama negaranya. **point 11**

```
i_max<-which.max(new_df1$Rate_Deaths)
i_min<-which.min(new_df1$Rate_Deaths)
##TERTINGGI
new_df1$Country[i_max]
```

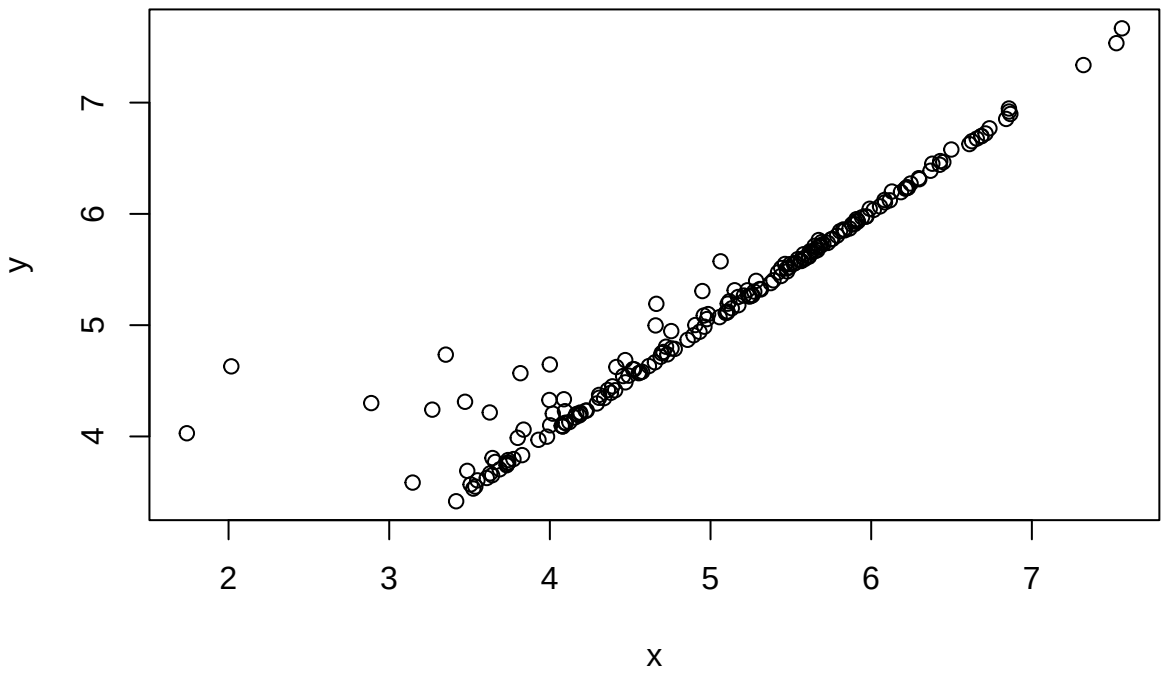
```
## [1] "Yemen"
```

```
##TERENDAH
new_df1$Country[i_min]
```

```
## [1] "Bhutan"
```

6. Tampilkan grafik plot antara penderita yang sembuh dengan penderita yang terkonfirmasi Covid-19! **point 8**

```
x<-log10(new_df1$Total_Recovered)
y<-log10(new_df1$Total_Cases)
plot(x,y)
```


y
x
2
3
4
5
6
7
4
5
6
7