Kuis_DS-A

Luckman Nathan Syarif Aljustin_123190151

##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**

```
ambil_data<-data.frame(us_contagious_diseases[us_contagious_diseases$disease == "Rubella",])
data_baru = data.frame(ambil_data[ambil_data$year >= 2000,])
head(data_baru[order(data_baru$count, decreasing = TRUE),],n=10)
```

```
##       disease          state year weeks_reporting count population
## 14159 Rubella North Carolina 2000              36    82    8049313
## 14418 Rubella South Carolina 2000              40    14    4012012
## 13086 Rubella     California 2000              32    11   33871648
## 13715 Rubella  Massachusetts 2000              39     6    6349097
## 14529 Rubella          Texas 2000              34     5   20851820
## 13272 Rubella        Florida 2001              32     4   16272186
## 12938 Rubella        Alabama 2000              37     3    4447100
## 13420 Rubella       Illinois 2001              46     3   12501805
## 13088 Rubella     California 2002              29     2   34529758
## 13271 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**

```
data_kategori <- us_contagious_diseases
data_kategori %>%
  mutate(kategori = case_when(count < 500 ~ "Biasa", count > 2000 ~ "Azab", TRUE ~ "Cobaan"))%>%

head(data_kategori, n=10)
```

```
##        disease   state year weeks_reporting count population kategori
## 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**

```
data_baru <- mutate(us_contagious_diseases, kategori = case_when(count < 500 ~ "Biasa", count > 2000 ~ "

head(data_baru, n=10)
```

```
##        disease   state year weeks_reporting count population kategori      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
```

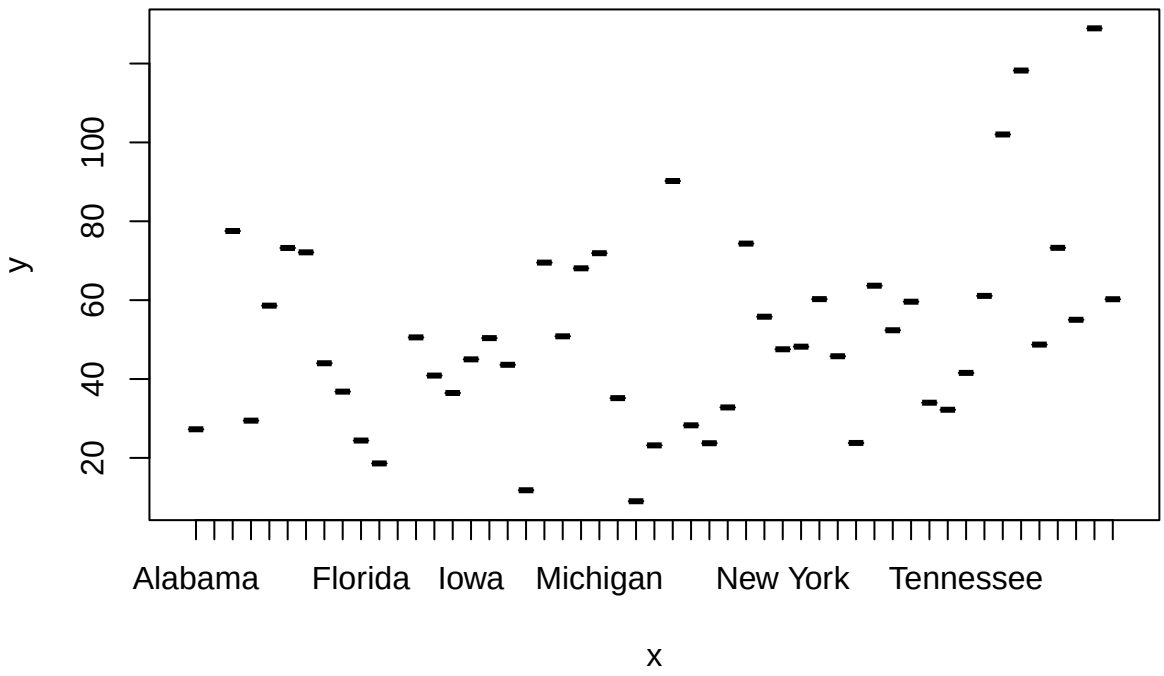
7. Tampilkan kesimpulan pada data nomor 6 dikelompokkan berdasarkan negara bagian yang isinya nama negara bagian dan rata-rata rate per negara bagian! **point 8**

```
kelompok.data <- data_baru %>% group_by(state) %>% summarize(rata_rata = mean(rate))
kelompok.data
```

```
## # A tibble: 51 x 2
##    state                rata_rata
##    <fct>                    <dbl>
##  1 Alabama                   27.3
##  2 Alaska                    NA
##  3 Arizona                   77.5
##  4 Arkansas                  29.4
##  5 California                58.6
##  6 Colorado                  73.2
##  7 Connecticut               72.1
##  8 Delaware                  44.0
##  9 District Of Columbia      36.8
## 10 Florida                   24.4
## # ... with 41 more rows
```

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

```
daftar_negara<-kelompok.data$state
rata<-kelompok.data$rata_rata
plot(daftar_negara,rata)
```



##BAGIAN KEDUA

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

```
dataset_covid = read.csv("worldwide_covid_data.csv")
dataset_covid
```

```
##                    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
## 1        771431                  19247   40080392
```

```
## 2       1289520                448738    2873656
## 3        230861                  5143   44892255
## 4        193595               2500323      77428
## 5       1092363                 31933   34207984
## 6         17674                178531      98997
## 7      24896917                544293   45741769
## 8       2018614                679544    2970540
## 9        177885               1656856     107363
## 10     42692931               1649058   25889279
## 11     95541800              10529092    9074078
## 12      5131033                500125   10259494
## 13       155049                389383     398191
## 14      6840598               3844860    1779154
## 15     10262107                 61505  166849261
## 16       378335               1314398     287839
## 17      9415479                996850    9445227
## 18     21405101               1836392   11656062
## 19       303238                744837     407120
## 20       604310                 48190   12540234
## 21       586598               9465075      61975
## 22      1192940               1523957     782791
## 23      2516925                211817   11882528
## 24      1291186                396810    3253915
## 25      1811943                750584    2414043
## 26     63776166                297257  214549103
## 27       482763               1089773     442994
## 28      5378292                781788    6879479
## 29       222837                 10290   21655917
## 30       345742                 27983   12355639
## 31       211025                374201     563935
## 32      2601505                152819   17023399
## 33      1751774                 63901   27413866
## 34     45819418               1200158   38177832
## 35        60228                 12191    4940197
## 36       148082                  8688   17044655
## 37     23240554               1202165   19332246
## 38    160000000                111163 1439323776
## 39     26610010                515730   51596762
## 40           NA                    NA     893947
## 41       188207                 33039    5696509
## 42      2524241                489634    5155359
## 43      3048235                748604    4071891
## 44     10404761                919351   11317505
## 45       305800               1853592     164977
## 46      9420908               7728815    1218933
## 47     40033548               3729200   10735157
## 48     85395099              14675037    5819072
## 49       234424                232817    1006902
## 50        89602               1240647      72222
## 51      2187112                198989   10991110
## 52       306299                  3289   93135138
## 53      1914667                106397   17995480
## 54      3693367                 35218  104872082
## 55      1357788                207953    6529311
```

```
## 56       238486                 162960    1463460
## 57        23693                   6561    3611001
## 58      2097590                1579856    1327710
## 59       367421                 312439    1175976
## 60      3663817                  30865  118704314
## 61       436822                 482677     904999
## 62      7411266                1334868    5552061
## 63    151204954                2309749   65463804
## 64       425046                1376221     308850
## 65        26355                  93112     283047
## 66      1305320                 568833    2294735
## 67       103948                  41483    2505809
## 68      9992057                2511151    3979075
## 69     73348901                 871781   84136868
## 70      1842458                  57711   31925467
## 71     25123079                2425959   10355939
## 72        79955                 706254     113210
## 73       495286                1237553     400214
## 74      2851620                 155390   18351317
## 75       564994                  41542   13600567
## 76       102067                  50301    2029112
## 77       348832                 440694     791551
## 78       120507                  10402   11585458
## 79      1084755                 107276   10111812
## 80     26499519                3497333    7577065
## 81      7301452                 758354    9628020
## 82      1127289                3275479     344160
## 83    601901543                 430586 1397864972
## 84     45541632                 164214  277330765
## 85     32619228                 381924   85407642
## 86     15718588                 379597   41408566
## 87      7897226                1576172    5010383
## 88       128771                1503877      85626
## 89     29094533                3119723    9326000
## 90    101911219                1688819   60344656
## 91      1066678                  39164   27236329
## 92       635655                 213437    2978192
## 93     26183287                 207860  125966129
## 94     10809943                1045806   10336473
## 95     11575012                 606902   19072287
## 96      2682247                  48479   55327825
## 97      4741080                1088988    4353658
## 98      1766598                 265026    6665765
## 99       611160                  82428    7414455
## 100     4831287                2599288    1858696
## 101     4780275                 704520    6785153
## 102      234404                 108289    2164610
## 103      128246                  24597    5213866
## 104     1771282                 253249    6994233
## 105       49126                1283602      38272
## 106     5482792                2051800    2672187
## 107     3579957                5599168     639373
## 108      249510                   8716   28626018
## 109      423467                  21410   19779198
```

```
## 110    33633342              1021927   32911686
## 111     1588558              2872291     553063
## 112      448825                21356   21016578
## 113     1211456              2734096     443092
## 114      376921              1005439     374882
## 115      484600               100745    4810167
## 116      358675               281413    1274549
## 117      176919               628569     281463
## 118    11250436                86068  130715840
## 119     1985799               493783    4021606
## 120       54960              1387598      39608
## 121     4030048              1203815    3347729
## 122      803043              1278383     628171
## 123    10030332               267573   37486335
## 124      936296                28893   32405166
## 125     4771253                86924   54890141
## 126      743492               285803    2601412
## 127     4386567               147072   29825911
## 128    17988698              1046778   17184822
## 129       42756               147888     289111
## 130     3979577               795581    5002100
## 131          NA                   NA    6728281
## 132      169153                 6671   25355726
## 133     3298966                15499  212851076
## 134     1369624               657442    2083261
## 135     8088217              1476745    5477058
## 136    25000000              4737348    5277214
## 137    20610681                90984  226531131
## 138     2619049               498180    5257230
## 139     4040000               917325    4404110
## 140      207207                22597    9169851
## 141     1886023               260219    7247837
## 142    18867422               561929   33576160
## 143    22740209               203948  111500195
## 144    21925993               580176   37791984
## 145    19736210              1943014   10157522
## 146     2804976               998992    2807805
## 147     1279618              1415936     903726
## 148    14446331               757602   19068495
## 149   205800000              1409426  146016918
## 150     3076863               230063   13373978
## 151    15628311               304483   51327324
## 152       85636               463569     184732
## 153       54303              1373612      39533
## 154       82601              2427656      34025
## 155       14689                65427     224510
## 156    30140728               848388   35527051
## 157      833323                48104   17323407
## 158     6205905               714063    8690979
## 159       21504               216886      99149
## 160      160729                19625    8190217
## 161    20667026              3496411    5910925
## 162       53105              1220328      43517
## 163     3874010               709120    5463127
```

```
## 164     1698057                 816643    2079315
## 165      239292                  14524   16475414
## 166    18407943                 305310   60292708
## 167      247059                  21736   11366444
## 168    66213858                1415472   46778641
## 169     5381256                 249925   21531515
## 170       85741                 769640     111404
## 171      238579                   5279   45194436
## 172      145862                 245744     593552
## 173    13154558                1291917   10182198
## 174    11566572                1323715    8737965
## 175      103566                   5735   18059157
## 176     7246326                 303529   23873571
## 177          NA                     NA    9819148
## 178          NA                     NA   61967997
## 179    14913135                 212951   70030726
## 180      169501                 125421    1351460
## 181      543576                  63698    8533655
## 182      382242                 271970    1405458
## 183     3053773                 254876   11981402
## 184    95211266                1113144   85533610
## 185    91908560                9147256   10047665
## 186     1785306                  37478   47636643
## 187   325510859                4762015   68355696
## 188    14154508                 326236   43387372
## 189     3785389                1084766    3489589
## 190   692816053                2077042  333558957
## 191     1377915                  40399   34107349
## 192     3359014                 118568   28329745
## 193    42517091                 431682   98491625
## 194      265253                   8643   30689226
## 195     2578545                 135286   19059950
## 196     1490416                  98393   15147568
```

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

```
str(dataset_covid)
```

```
## '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**

```
cov<-order(dataset_covid$Total_Cases, decreasing = TRUE)
dataset_covid$Country[cov][1:10]
```

```
##  [1] "USA"       "India"     "Brazil"    "UK"        "Russia"    "Turkey"
##  [7] "France"    "Iran"      "Argentina" "Spain"
```

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

```
dataset_covid <- data.frame(dataset_covid, Rate_Deaths = dataset_covid$Total_Deaths/dataset_covid$Total_
dataset_covid
```

```
##                    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**

```
dataset_covid$Country[which.max(dataset_covid$Rate_Deaths)]
```

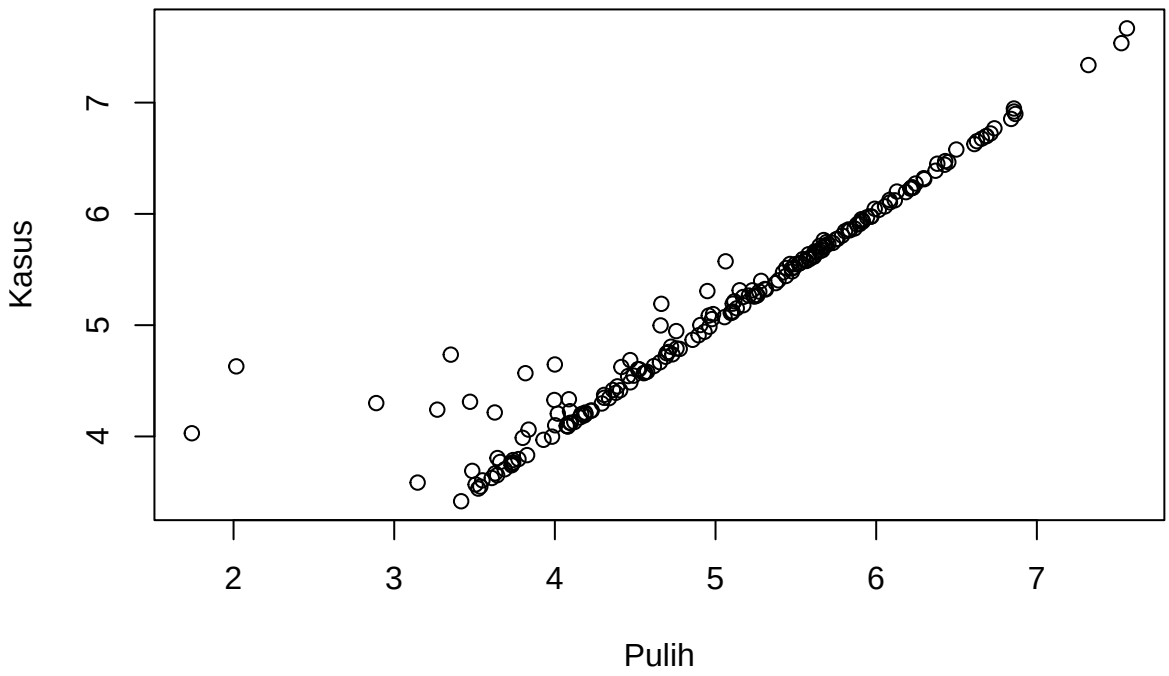
```
## [1] "Yemen"
```

```
dataset_covid$Country[which.min(dataset_covid$Rate_Deaths)]
```

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

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

```
Pulih<-log10(dataset_covid$Total_Recovered)
Kasus<-log10(dataset_covid$Total_Cases)
plot(Pulih,Kasus)
```


Kasus
4
5
6
7
2
3
4
5
6
7
Pulih