

# Covid 19 Data Analysis

Code ▾

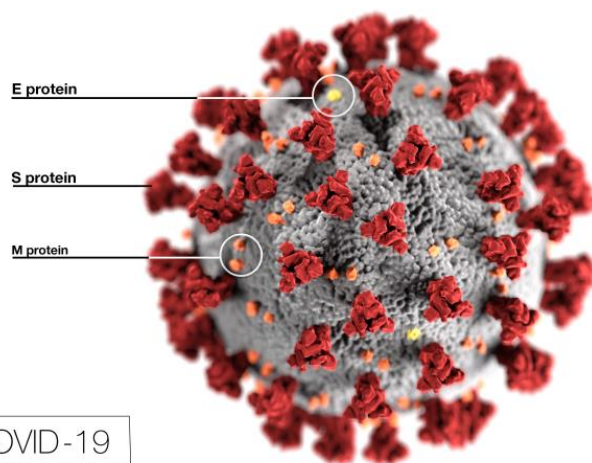
BDA Project by-

Abhinav Jha [9918103152] {F6}

Pranjal Rastogi [9918103014] {F1}

Akshat Dubey [9918103208] {F8}

Mayank Asnani [9918103161] {F6}



India

In December 2019, COVID-19 coronavirus was first identified in the Wuhan region of China. By March 11, 2020, the World Health Organization (WHO) categorized the COVID-19 outbreak as a pandemic. A lot has happened in the months in between with major outbreaks in Iran, South Korea, and Italy.

We know that COVID-19 spreads through respiratory droplets, such as through coughing, sneezing, or speaking. But, how quickly did the virus spread across the globe? And, can we see any effect from country-wide policies, like shutdowns and quarantines?

In this notebook, you will visualize COVID-19 data

## Insights of Covid 19 data for

Hide

```
covid<-read.csv("C:/Users/Abhinav/Downloads/covid_19_india.csv")
summary(covid)
```

```
   i..Sno      Date      Time
Min.   : 1  Length:9291  Length:9291
1st Qu.:2324 Class :character Class :character
Median :4646 Mode  :character Mode  :character
Mean   :4646
3rd Qu.:6968
Max.   :9291
State.UnionTerritory ConfirmedIndianNational
Length:9291          Length:9291
Class :character      Class :character
Mode  :character      Mode  :character

ConfirmedForeignNational  Cured      Deaths
Length:9291              Min.   : 0  Min.   : 0.0
Class :character          1st Qu.: 152 1st Qu.: 2.0
Mode  :character          Median : 4308 Median : 66.0
                          Mean   : 78633 Mean   : 1487.6
                          3rd Qu.: 57727 3rd Qu.: 926.5
                          Max.   :1737080 Max.   :47827.0

Confirmed
Min.   : 0.0
1st Qu.: 538.5
Median : 6832.0
Mean   : 91839.8
3rd Qu.: 78856.0
Max.   :1859367.0
```

Hide

```
str(covid)
```

```
'data.frame': 9291 obs. of 9 variables:
 $ i..Sno      : int  1 2 3 4 5 6 7 8 9 10 ...
 $ Date        : chr   "30/01/20" "31/01/20" "01/02/20" "02/02/20" ...
 $ Time        : chr   "6:00 PM" "6:00 PM" "6:00 PM" "6:00 PM" ...
 $ State.UnionTerritory : chr   "Kerala" "Kerala" "Kerala" "Kerala" ...
 $ ConfirmedIndianNational : chr   "1" "1" "2" "3" ...
 $ ConfirmedForeignNational: chr   "0" "0" "0" "0" ...
 $ Cured       : int   0 0 0 0 0 0 0 0 0 0 ...
 $ Deaths     : int   0 0 0 0 0 0 0 0 0 0 ...
 $ Confirmed   : int   1 1 2 3 3 3 3 3 3 3 ...
```

[Hide](#)

```
set_figsize(15,15)
```

```
Error in set_figsize(15, 15) : could not find function "set_figsize"
```

## Delhi City Insights

[Hide](#)

```
library(lubridate)
covid_delhi<-covid[which(covid$State.UnionTerritory=="Delhi"),]
covid_delhi$Sno<-NULL
covid_delhi$State.UnionTerritory<-NULL
covid_delhi$Time<-NULL
covid_delhi$Date<-dmy(covid_delhi$Date)
summary(covid_delhi)
```

i..Sno	Date	ConfirmedIndianNational
Min. : 35	Min. :2020-03-02	Length:283
1st Qu.:1828	1st Qu.:2020-05-11	Class :character
Median :4330	Median :2020-07-21	Mode :character
Mean :4358	Mean :2020-07-21	

```

3rd Qu.:6798    3rd Qu.:2020-09-29
Max.      :9265    Max.      :2020-12-09
ConfirmedForeignNational    Cured    Deaths
Length:283                Min.      :    0    Min.      :    0
Class :character           1st Qu.: 2099    1st Qu.: 73
Mode  :character           Median :104918   Median :3663
                                Mean  :144002   Mean  :3291
                                3rd Qu.:242092   3rd Qu.:5296
                                Max.    :565039   Max.    :9763

Confirmed
Min.      :    1
1st Qu.: 7078
Median :123747
Mean    :164120
3rd Qu.:274712
Max.    :597112

```

Hide

```

library(gganimate)
library(hrbrthemes)
library(ggplot2)
library(gifski)

```

Hide

```

ggplot(covid_delhi,aes(x=Date, y=Confirmed)) +geom_line() +geom_point() +ggtitle("Confirmed cases in Delhi") +theme_ipsum() +
  ylab("Number of Confirmed Cases") +transition_reveal(Date)

```

```

font family not found in Windows font databasefont family not found in Windows font databasefont family not found in Windows font databasefont family not found in Windows font databasefont family not found in Windows font database

```

```
[1] "./gganim_plot0001.png" "./gganim_plot0002.png"
[3] "./gganim_plot0003.png" "./gganim_plot0004.png"
[5] "./gganim_plot0005.png" "./gganim_plot0006.png"
[7] "./gganim_plot0007.png" "./gganim_plot0008.png"
[9] "./gganim_plot0009.png" "./gganim_plot0010.png"
[11] "./gganim_plot0011.png" "./gganim_plot0012.png"
[13] "./gganim_plot0013.png" "./gganim_plot0014.png"
[15] "./gganim_plot0015.png" "./gganim_plot0016.png"
[17] "./gganim_plot0017.png" "./gganim_plot0018.png"
[19] "./gganim_plot0019.png" "./gganim_plot0020.png"
[21] "./gganim_plot0021.png" "./gganim_plot0022.png"
[23] "./gganim_plot0023.png" "./gganim_plot0024.png"
[25] "./gganim_plot0025.png" "./gganim_plot0026.png"
[27] "./gganim_plot0027.png" "./gganim_plot0028.png"
[29] "./gganim_plot0029.png" "./gganim_plot0030.png"
[31] "./gganim_plot0031.png" "./gganim_plot0032.png"
[33] "./gganim_plot0033.png" "./gganim_plot0034.png"
[35] "./gganim_plot0035.png" "./gganim_plot0036.png"
[37] "./gganim_plot0037.png" "./gganim_plot0038.png"
[39] "./gganim_plot0039.png" "./gganim_plot0040.png"
[41] "./gganim_plot0041.png" "./gganim_plot0042.png"
[43] "./gganim_plot0043.png" "./gganim_plot0044.png"
[45] "./gganim_plot0045.png" "./gganim_plot0046.png"
[47] "./gganim_plot0047.png" "./gganim_plot0048.png"
[49] "./gganim_plot0049.png" "./gganim_plot0050.png"
[51] "./gganim_plot0051.png" "./gganim_plot0052.png"
[53] "./gganim_plot0053.png" "./gganim_plot0054.png"
[55] "./gganim_plot0055.png" "./gganim_plot0056.png"
[57] "./gganim_plot0057.png" "./gganim_plot0058.png"
[59] "./gganim_plot0059.png" "./gganim_plot0060.png"
[61] "./gganim_plot0061.png" "./gganim_plot0062.png"
[63] "./gganim_plot0063.png" "./gganim_plot0064.png"
[65] "./gganim_plot0065.png" "./gganim_plot0066.png"
[67] "./gganim_plot0067.png" "./gganim_plot0068.png"
[69] "./gganim_plot0069.png" "./gganim_plot0070.png"
[71] "./gganim_plot0071.png" "./gganim_plot0072.png"
[73] "./gganim_plot0073.png" "./gganim_plot0074.png"
```

```

[75] "./gganim_plot0075.png" "./gganim_plot0076.png"
[77] "./gganim_plot0077.png" "./gganim_plot0078.png"
[79] "./gganim_plot0079.png" "./gganim_plot0080.png"
[81] "./gganim_plot0081.png" "./gganim_plot0082.png"
[83] "./gganim_plot0083.png" "./gganim_plot0084.png"
[85] "./gganim_plot0085.png" "./gganim_plot0086.png"
[87] "./gganim_plot0087.png" "./gganim_plot0088.png"
[89] "./gganim_plot0089.png" "./gganim_plot0090.png"
[91] "./gganim_plot0091.png" "./gganim_plot0092.png"
[93] "./gganim_plot0093.png" "./gganim_plot0094.png"
[95] "./gganim_plot0095.png" "./gganim_plot0096.png"
[97] "./gganim_plot0097.png" "./gganim_plot0098.png"
[99] "./gganim_plot0099.png" "./gganim_plot0100.png"

```

```
attr(,"frame_vars")
```

	frame	nframes	progress	frame_along
1	1	100	0.01	2020-03-02
2	2	100	0.02	2020-03-04
3	3	100	0.03	2020-03-07
4	4	100	0.04	2020-03-10
5	5	100	0.05	2020-03-13
6	6	100	0.06	2020-03-16
7	7	100	0.07	2020-03-19
8	8	100	0.08	2020-03-21
9	9	100	0.09	2020-03-24
10	10	100	0.10	2020-03-27
11	11	100	0.11	2020-03-30
12	12	100	0.12	2020-04-02
13	13	100	0.13	2020-04-05
14	14	100	0.14	2020-04-08
15	15	100	0.15	2020-04-10
16	16	100	0.16	2020-04-13
17	17	100	0.17	2020-04-16
18	18	100	0.18	2020-04-19
19	19	100	0.19	2020-04-22
20	20	100	0.20	2020-04-25
21	21	100	0.21	2020-04-27
22	22	100	0.22	2020-04-30

23	23	100	0.23	2020-05-03
24	24	100	0.24	2020-05-06
25	25	100	0.25	2020-05-09
26	26	100	0.26	2020-05-12
27	27	100	0.27	2020-05-15
28	28	100	0.28	2020-05-17
29	29	100	0.29	2020-05-20
30	30	100	0.30	2020-05-23
31	31	100	0.31	2020-05-26
32	32	100	0.32	2020-05-29
33	33	100	0.33	2020-06-01
34	34	100	0.34	2020-06-04
35	35	100	0.35	2020-06-06
36	36	100	0.36	2020-06-09
37	37	100	0.37	2020-06-12
38	38	100	0.38	2020-06-15
39	39	100	0.39	2020-06-18
40	40	100	0.40	2020-06-21
41	41	100	0.41	2020-06-23
42	42	100	0.42	2020-06-26
43	43	100	0.43	2020-06-29
44	44	100	0.44	2020-07-02
45	45	100	0.45	2020-07-05
46	46	100	0.46	2020-07-08
47	47	100	0.47	2020-07-11
48	48	100	0.48	2020-07-13
49	49	100	0.49	2020-07-16
50	50	100	0.50	2020-07-19
51	51	100	0.51	2020-07-22
52	52	100	0.52	2020-07-25
53	53	100	0.53	2020-07-28
54	54	100	0.54	2020-07-30
55	55	100	0.55	2020-08-02
56	56	100	0.56	2020-08-05
57	57	100	0.57	2020-08-08
58	58	100	0.58	2020-08-11
59	59	100	0.59	2020-08-14

60	60	100	0.60	2020-08-17
61	61	100	0.61	2020-08-19
62	62	100	0.62	2020-08-22
63	63	100	0.63	2020-08-25
64	64	100	0.64	2020-08-28
65	65	100	0.65	2020-08-31
66	66	100	0.66	2020-09-03
67	67	100	0.67	2020-09-06
68	68	100	0.68	2020-09-08
69	69	100	0.69	2020-09-11
70	70	100	0.70	2020-09-14
71	71	100	0.71	2020-09-17
72	72	100	0.72	2020-09-20
73	73	100	0.73	2020-09-23
74	74	100	0.74	2020-09-25
75	75	100	0.75	2020-09-28
76	76	100	0.76	2020-10-01
77	77	100	0.77	2020-10-04
78	78	100	0.78	2020-10-07
79	79	100	0.79	2020-10-10
80	80	100	0.80	2020-10-13
81	81	100	0.81	2020-10-15
82	82	100	0.82	2020-10-18
83	83	100	0.83	2020-10-21
84	84	100	0.84	2020-10-24
85	85	100	0.85	2020-10-27
86	86	100	0.86	2020-10-30
87	87	100	0.87	2020-11-01
88	88	100	0.88	2020-11-04
89	89	100	0.89	2020-11-07
90	90	100	0.90	2020-11-10
91	91	100	0.91	2020-11-13
92	92	100	0.92	2020-11-16
93	93	100	0.93	2020-11-19
94	94	100	0.94	2020-11-21
95	95	100	0.95	2020-11-24
96	96	100	0.96	2020-11-27



97	97	100	0.97	2020-11-30
98	98	100	0.98	2020-12-03
99	99	100	0.99	2020-12-06
100	100	100	1.00	2020-12-09

frame\_source

1	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0001.png
2	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0002.png
3	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0003.png
4	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0004.png
5	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0005.png
6	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0006.png
7	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0007.png
8	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0008.png
9	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0009.png
10	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0010.png
11	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0011.png
12	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0012.png
13	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0013.png
14	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0014.png
15	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0015.png
16	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0016.png
17	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0017.png
18	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0018.png
19	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0019.png
20	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0020.png
21	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0021.png
22	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0022.png
23	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0023.png
24	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0024.png
25	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0025.png
26	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0026.png
27	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0027.png
28	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0028.png
29	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0029.png
30	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0030.png
31	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0031.png
32	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\ganim_plot0032.png

Create PDF in your applications with the Pdfcrowd [HTML to PDF API](#)

70 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0070.png  
71 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0071.png  
72 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0072.png  
73 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0073.png  
74 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0074.png  
75 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0075.png  
76 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0076.png  
77 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0077.png  
78 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0078.png  
79 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0079.png  
80 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0080.png  
81 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0081.png  
82 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0082.png  
83 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0083.png  
84 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0084.png  
85 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0085.png  
86 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0086.png  
87 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0087.png  
88 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0088.png  
89 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0089.png  
90 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0090.png  
91 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0091.png  
92 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0092.png  
93 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0093.png  
94 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0094.png  
95 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0095.png  
96 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0096.png  
97 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0097.png  
98 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0098.png  
99 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0099.png  
100 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c3f742a92\\gganim\_plot0100.png

Hide

```
ggplot(covid_delhi,aes(x=Date, y=Deaths)) +geom_line() +geom_point() +ggtitle("Deaths due to covid 19 in Delhi")  
+theme_ipsum() +  
  ylab("Number of Deaths") +transition_reveal(Date)
```

```
[1] "./gganim_plot0001.png" "./gganim_plot0002.png"
[3] "./gganim_plot0003.png" "./gganim_plot0004.png"
[5] "./gganim_plot0005.png" "./gganim_plot0006.png"
[7] "./gganim_plot0007.png" "./gganim_plot0008.png"
[9] "./gganim_plot0009.png" "./gganim_plot0010.png"
[11] "./gganim_plot0011.png" "./gganim_plot0012.png"
[13] "./gganim_plot0013.png" "./gganim_plot0014.png"
[15] "./gganim_plot0015.png" "./gganim_plot0016.png"
[17] "./gganim_plot0017.png" "./gganim_plot0018.png"
[19] "./gganim_plot0019.png" "./gganim_plot0020.png"
[21] "./gganim_plot0021.png" "./gganim_plot0022.png"
[23] "./gganim_plot0023.png" "./gganim_plot0024.png"
[25] "./gganim_plot0025.png" "./gganim_plot0026.png"
[27] "./gganim_plot0027.png" "./gganim_plot0028.png"
[29] "./gganim_plot0029.png" "./gganim_plot0030.png"
[31] "./gganim_plot0031.png" "./gganim_plot0032.png"
[33] "./gganim_plot0033.png" "./gganim_plot0034.png"
[35] "./gganim_plot0035.png" "./gganim_plot0036.png"
[37] "./gganim_plot0037.png" "./gganim_plot0038.png"
[39] "./gganim_plot0039.png" "./gganim_plot0040.png"
[41] "./gganim_plot0041.png" "./gganim_plot0042.png"
[43] "./gganim_plot0043.png" "./gganim_plot0044.png"
[45] "./gganim_plot0045.png" "./gganim_plot0046.png"
[47] "./gganim_plot0047.png" "./gganim_plot0048.png"
[49] "./gganim_plot0049.png" "./gganim_plot0050.png"
[51] "./gganim_plot0051.png" "./gganim_plot0052.png"
[53] "./gganim_plot0053.png" "./gganim_plot0054.png"
[55] "./gganim_plot0055.png" "./gganim_plot0056.png"
[57] "./gganim_plot0057.png" "./gganim_plot0058.png"
[59] "./gganim_plot0059.png" "./gganim_plot0060.png"
[61] "./gganim_plot0061.png" "./gganim_plot0062.png"
[63] "./gganim_plot0063.png" "./gganim_plot0064.png"
[65] "./gganim_plot0065.png" "./gganim_plot0066.png"
[67] "./gganim_plot0067.png" "./gganim_plot0068.png"
[69] "./gganim_plot0069.png" "./gganim_plot0070.png"
[71] "./gganim_plot0071.png" "./gganim_plot0072.png"
```

```

[73] "./gganim_plot0073.png" "./gganim_plot0074.png"
[75] "./gganim_plot0075.png" "./gganim_plot0076.png"
[77] "./gganim_plot0077.png" "./gganim_plot0078.png"
[79] "./gganim_plot0079.png" "./gganim_plot0080.png"
[81] "./gganim_plot0081.png" "./gganim_plot0082.png"
[83] "./gganim_plot0083.png" "./gganim_plot0084.png"
[85] "./gganim_plot0085.png" "./gganim_plot0086.png"
[87] "./gganim_plot0087.png" "./gganim_plot0088.png"
[89] "./gganim_plot0089.png" "./gganim_plot0090.png"
[91] "./gganim_plot0091.png" "./gganim_plot0092.png"
[93] "./gganim_plot0093.png" "./gganim_plot0094.png"
[95] "./gganim_plot0095.png" "./gganim_plot0096.png"
[97] "./gganim_plot0097.png" "./gganim_plot0098.png"
[99] "./gganim_plot0099.png" "./gganim_plot0100.png"

```

```
attr(,"frame_vars")
```

	frame	nframes	progress	frame_along
1	1	100	0.01	2020-03-02
2	2	100	0.02	2020-03-04
3	3	100	0.03	2020-03-07
4	4	100	0.04	2020-03-10
5	5	100	0.05	2020-03-13
6	6	100	0.06	2020-03-16
7	7	100	0.07	2020-03-19
8	8	100	0.08	2020-03-21
9	9	100	0.09	2020-03-24
10	10	100	0.10	2020-03-27
11	11	100	0.11	2020-03-30
12	12	100	0.12	2020-04-02
13	13	100	0.13	2020-04-05
14	14	100	0.14	2020-04-08
15	15	100	0.15	2020-04-10
16	16	100	0.16	2020-04-13
17	17	100	0.17	2020-04-16
18	18	100	0.18	2020-04-19
19	19	100	0.19	2020-04-22
20	20	100	0.20	2020-04-25
21	21	100	0.21	2020-04-27

22	22	100	0.22	2020-04-30
23	23	100	0.23	2020-05-03
24	24	100	0.24	2020-05-06
25	25	100	0.25	2020-05-09
26	26	100	0.26	2020-05-12
27	27	100	0.27	2020-05-15
28	28	100	0.28	2020-05-17
29	29	100	0.29	2020-05-20
30	30	100	0.30	2020-05-23
31	31	100	0.31	2020-05-26
32	32	100	0.32	2020-05-29
33	33	100	0.33	2020-06-01
34	34	100	0.34	2020-06-04
35	35	100	0.35	2020-06-06
36	36	100	0.36	2020-06-09
37	37	100	0.37	2020-06-12
38	38	100	0.38	2020-06-15
39	39	100	0.39	2020-06-18
40	40	100	0.40	2020-06-21
41	41	100	0.41	2020-06-23
42	42	100	0.42	2020-06-26
43	43	100	0.43	2020-06-29
44	44	100	0.44	2020-07-02
45	45	100	0.45	2020-07-05
46	46	100	0.46	2020-07-08
47	47	100	0.47	2020-07-11
48	48	100	0.48	2020-07-13
49	49	100	0.49	2020-07-16
50	50	100	0.50	2020-07-19
51	51	100	0.51	2020-07-22
52	52	100	0.52	2020-07-25
53	53	100	0.53	2020-07-28
54	54	100	0.54	2020-07-30
55	55	100	0.55	2020-08-02
56	56	100	0.56	2020-08-05
57	57	100	0.57	2020-08-08
58	58	100	0.58	2020-08-11

59	59	100	0.59	2020-08-14
60	60	100	0.60	2020-08-17
61	61	100	0.61	2020-08-19
62	62	100	0.62	2020-08-22
63	63	100	0.63	2020-08-25
64	64	100	0.64	2020-08-28
65	65	100	0.65	2020-08-31
66	66	100	0.66	2020-09-03
67	67	100	0.67	2020-09-06
68	68	100	0.68	2020-09-08
69	69	100	0.69	2020-09-11
70	70	100	0.70	2020-09-14
71	71	100	0.71	2020-09-17
72	72	100	0.72	2020-09-20
73	73	100	0.73	2020-09-23
74	74	100	0.74	2020-09-25
75	75	100	0.75	2020-09-28
76	76	100	0.76	2020-10-01
77	77	100	0.77	2020-10-04
78	78	100	0.78	2020-10-07
79	79	100	0.79	2020-10-10
80	80	100	0.80	2020-10-13
81	81	100	0.81	2020-10-15
82	82	100	0.82	2020-10-18
83	83	100	0.83	2020-10-21
84	84	100	0.84	2020-10-24
85	85	100	0.85	2020-10-27
86	86	100	0.86	2020-10-30
87	87	100	0.87	2020-11-01
88	88	100	0.88	2020-11-04
89	89	100	0.89	2020-11-07
90	90	100	0.90	2020-11-10
91	91	100	0.91	2020-11-13
92	92	100	0.92	2020-11-16
93	93	100	0.93	2020-11-19
94	94	100	0.94	2020-11-21
95	95	100	0.95	2020-11-24



96	96	100	0.96	2020-11-27
97	97	100	0.97	2020-11-30
98	98	100	0.98	2020-12-03
99	99	100	0.99	2020-12-06
100	100	100	1.00	2020-12-09

frame\_source

1	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0001.png
2	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0002.png
3	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0003.png
4	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0004.png
5	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0005.png
6	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0006.png
7	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0007.png
8	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0008.png
9	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0009.png
10	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0010.png
11	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0011.png
12	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0012.png
13	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0013.png
14	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0014.png
15	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0015.png
16	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0016.png
17	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0017.png
18	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0018.png
19	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0019.png
20	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0020.png
21	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0021.png
22	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0022.png
23	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0023.png
24	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0024.png
25	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0025.png
26	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0026.png
27	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0027.png
28	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0028.png
29	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0029.png
30	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0030.png
31	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim_plot0031.png





69 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0069.png  
70 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0070.png  
71 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0071.png  
72 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0072.png  
73 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0073.png  
74 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0074.png  
75 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0075.png  
76 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0076.png  
77 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0077.png  
78 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0078.png  
79 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0079.png  
80 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0080.png  
81 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0081.png  
82 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0082.png  
83 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0083.png  
84 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0084.png  
85 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0085.png  
86 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0086.png  
87 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0087.png  
88 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0088.png  
89 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0089.png  
90 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0090.png  
91 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0091.png  
92 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0092.png  
93 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0093.png  
94 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0094.png  
95 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0095.png  
96 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0096.png  
97 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0097.png  
98 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0098.png  
99 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0099.png  
100 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6c6916601\\gganim\_plot0100.png

Hide

```
ggplot(covid_delhi,aes(x=Date, y=Cured)) +geom_line() +geom_point() +ggtitle("Cured cases in Delhi") +theme_ipsum  
( ) +
```

```
ylab("Number of people cured") +transition_reveal(Date)
```

```
[1] "./gganim_plot0001.png" "./gganim_plot0002.png"  
[3] "./gganim_plot0003.png" "./gganim_plot0004.png"  
[5] "./gganim_plot0005.png" "./gganim_plot0006.png"  
[7] "./gganim_plot0007.png" "./gganim_plot0008.png"  
[9] "./gganim_plot0009.png" "./gganim_plot0010.png"  
[11] "./gganim_plot0011.png" "./gganim_plot0012.png"  
[13] "./gganim_plot0013.png" "./gganim_plot0014.png"  
[15] "./gganim_plot0015.png" "./gganim_plot0016.png"  
[17] "./gganim_plot0017.png" "./gganim_plot0018.png"  
[19] "./gganim_plot0019.png" "./gganim_plot0020.png"  
[21] "./gganim_plot0021.png" "./gganim_plot0022.png"  
[23] "./gganim_plot0023.png" "./gganim_plot0024.png"  
[25] "./gganim_plot0025.png" "./gganim_plot0026.png"  
[27] "./gganim_plot0027.png" "./gganim_plot0028.png"  
[29] "./gganim_plot0029.png" "./gganim_plot0030.png"  
[31] "./gganim_plot0031.png" "./gganim_plot0032.png"  
[33] "./gganim_plot0033.png" "./gganim_plot0034.png"  
[35] "./gganim_plot0035.png" "./gganim_plot0036.png"  
[37] "./gganim_plot0037.png" "./gganim_plot0038.png"  
[39] "./gganim_plot0039.png" "./gganim_plot0040.png"  
[41] "./gganim_plot0041.png" "./gganim_plot0042.png"  
[43] "./gganim_plot0043.png" "./gganim_plot0044.png"  
[45] "./gganim_plot0045.png" "./gganim_plot0046.png"  
[47] "./gganim_plot0047.png" "./gganim_plot0048.png"  
[49] "./gganim_plot0049.png" "./gganim_plot0050.png"  
[51] "./gganim_plot0051.png" "./gganim_plot0052.png"  
[53] "./gganim_plot0053.png" "./gganim_plot0054.png"  
[55] "./gganim_plot0055.png" "./gganim_plot0056.png"  
[57] "./gganim_plot0057.png" "./gganim_plot0058.png"  
[59] "./gganim_plot0059.png" "./gganim_plot0060.png"  
[61] "./gganim_plot0061.png" "./gganim_plot0062.png"  
[63] "./gganim_plot0063.png" "./gganim_plot0064.png"  
[65] "./gganim_plot0065.png" "./gganim_plot0066.png"  
[67] "./gganim_plot0067.png" "./gganim_plot0068.png"  
[69] "./gganim_plot0069.png" "./gganim_plot0070.png"
```

```

[71] "./gganim_plot0071.png" "./gganim_plot0072.png"
[73] "./gganim_plot0073.png" "./gganim_plot0074.png"
[75] "./gganim_plot0075.png" "./gganim_plot0076.png"
[77] "./gganim_plot0077.png" "./gganim_plot0078.png"
[79] "./gganim_plot0079.png" "./gganim_plot0080.png"
[81] "./gganim_plot0081.png" "./gganim_plot0082.png"
[83] "./gganim_plot0083.png" "./gganim_plot0084.png"
[85] "./gganim_plot0085.png" "./gganim_plot0086.png"
[87] "./gganim_plot0087.png" "./gganim_plot0088.png"
[89] "./gganim_plot0089.png" "./gganim_plot0090.png"
[91] "./gganim_plot0091.png" "./gganim_plot0092.png"
[93] "./gganim_plot0093.png" "./gganim_plot0094.png"
[95] "./gganim_plot0095.png" "./gganim_plot0096.png"
[97] "./gganim_plot0097.png" "./gganim_plot0098.png"
[99] "./gganim_plot0099.png" "./gganim_plot0100.png"
attr(,"frame_vars")
  frame nframes progress frame_along
1      1      100      0.01 2020-03-02
2      2      100      0.02 2020-03-04
3      3      100      0.03 2020-03-07
4      4      100      0.04 2020-03-10
5      5      100      0.05 2020-03-13
6      6      100      0.06 2020-03-16
7      7      100      0.07 2020-03-19
8      8      100      0.08 2020-03-21
9      9      100      0.09 2020-03-24
10     10      100      0.10 2020-03-27
11     11      100      0.11 2020-03-30
12     12      100      0.12 2020-04-02
13     13      100      0.13 2020-04-05
14     14      100      0.14 2020-04-08
15     15      100      0.15 2020-04-10
16     16      100      0.16 2020-04-13
17     17      100      0.17 2020-04-16
18     18      100      0.18 2020-04-19
19     19      100      0.19 2020-04-22
20     20      100      0.20 2020-04-25

```

21	21	100	0.21	2020-04-27
22	22	100	0.22	2020-04-30
23	23	100	0.23	2020-05-03
24	24	100	0.24	2020-05-06
25	25	100	0.25	2020-05-09
26	26	100	0.26	2020-05-12
27	27	100	0.27	2020-05-15
28	28	100	0.28	2020-05-17
29	29	100	0.29	2020-05-20
30	30	100	0.30	2020-05-23
31	31	100	0.31	2020-05-26
32	32	100	0.32	2020-05-29
33	33	100	0.33	2020-06-01
34	34	100	0.34	2020-06-04
35	35	100	0.35	2020-06-06
36	36	100	0.36	2020-06-09
37	37	100	0.37	2020-06-12
38	38	100	0.38	2020-06-15
39	39	100	0.39	2020-06-18
40	40	100	0.40	2020-06-21
41	41	100	0.41	2020-06-23
42	42	100	0.42	2020-06-26
43	43	100	0.43	2020-06-29
44	44	100	0.44	2020-07-02
45	45	100	0.45	2020-07-05
46	46	100	0.46	2020-07-08
47	47	100	0.47	2020-07-11
48	48	100	0.48	2020-07-13
49	49	100	0.49	2020-07-16
50	50	100	0.50	2020-07-19
51	51	100	0.51	2020-07-22
52	52	100	0.52	2020-07-25
53	53	100	0.53	2020-07-28
54	54	100	0.54	2020-07-30
55	55	100	0.55	2020-08-02
56	56	100	0.56	2020-08-05
57	57	100	0.57	2020-08-08

58	58	100	0.58	2020-08-11
59	59	100	0.59	2020-08-14
60	60	100	0.60	2020-08-17
61	61	100	0.61	2020-08-19
62	62	100	0.62	2020-08-22
63	63	100	0.63	2020-08-25
64	64	100	0.64	2020-08-28
65	65	100	0.65	2020-08-31
66	66	100	0.66	2020-09-03
67	67	100	0.67	2020-09-06
68	68	100	0.68	2020-09-08
69	69	100	0.69	2020-09-11
70	70	100	0.70	2020-09-14
71	71	100	0.71	2020-09-17
72	72	100	0.72	2020-09-20
73	73	100	0.73	2020-09-23
74	74	100	0.74	2020-09-25
75	75	100	0.75	2020-09-28
76	76	100	0.76	2020-10-01
77	77	100	0.77	2020-10-04
78	78	100	0.78	2020-10-07
79	79	100	0.79	2020-10-10
80	80	100	0.80	2020-10-13
81	81	100	0.81	2020-10-15
82	82	100	0.82	2020-10-18
83	83	100	0.83	2020-10-21
84	84	100	0.84	2020-10-24
85	85	100	0.85	2020-10-27
86	86	100	0.86	2020-10-30
87	87	100	0.87	2020-11-01
88	88	100	0.88	2020-11-04
89	89	100	0.89	2020-11-07
90	90	100	0.90	2020-11-10
91	91	100	0.91	2020-11-13
92	92	100	0.92	2020-11-16
93	93	100	0.93	2020-11-19
94	94	100	0.94	2020-11-21

95	95	100	0.95	2020-11-24
96	96	100	0.96	2020-11-27
97	97	100	0.97	2020-11-30
98	98	100	0.98	2020-12-03
99	99	100	0.99	2020-12-06
100	100	100	1.00	2020-12-09

frame\_source

1	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0001.png
2	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0002.png
3	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0003.png
4	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0004.png
5	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0005.png
6	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0006.png
7	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0007.png
8	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0008.png
9	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0009.png
10	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0010.png
11	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0011.png
12	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0012.png
13	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0013.png
14	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0014.png
15	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0015.png
16	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0016.png
17	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0017.png
18	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0018.png
19	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0019.png
20	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0020.png
21	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0021.png
22	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0022.png
23	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0023.png
24	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0024.png
25	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0025.png
26	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0026.png
27	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0027.png
28	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0028.png
29	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0029.png
30	C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0030.png







```
68 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0068.png
69 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0069.png
70 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0070.png
71 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0071.png
72 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0072.png
73 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0073.png
74 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0074.png
75 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0075.png
76 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0076.png
77 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0077.png
78 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0078.png
79 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0079.png
80 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0080.png
81 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0081.png
82 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0082.png
83 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0083.png
84 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0084.png
85 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0085.png
86 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0086.png
87 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0087.png
88 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0088.png
89 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0089.png
90 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0090.png
91 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0091.png
92 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0092.png
93 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0093.png
94 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0094.png
95 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0095.png
96 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0096.png
97 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0097.png
98 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0098.png
99 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0099.png
100 C:\\Users\\Abhinav\\AppData\\Local\\Temp\\RtmpW0vSr1\\8a6clec06eb1\\gganim_plot0100.png
```

## World Stats

```
COVID19_line_list_data <- read.csv("C:/Users/Abhinav/Downloads/COVID19_line_list_data.csv")

rm(list=ls())

library("Hmisc")
data <- read.csv("C:/Users/Abhinav/Downloads/COVID19_line_list_data.csv")
describe(data)
```

data

27 Variables      1085 Observations

i..id

	n	missing	distinct	Info	Mean	Gmd	.05
	1085	0	1085	1	543	362	55.2
	.10	.25	.50	.75	.90	.95	
	109.4	272.0	543.0	814.0	976.6	1030.8	

lowest :    1    2    3    4    5, highest: 1081 1082 1083 1084 1085

case\_in\_country

	n	missing	distinct	Info	Mean	Gmd	.05
	888	197	197	1	48.84	54.99	2.00
	.10	.25	.50	.75	.90	.95	
	4.00	11.00	28.00	67.25	110.30	153.65	

lowest :    1    2    3    4    5, highest: 365 443 875 925 1443

0 (215, 0.242), 20 (241, 0.271), 40 (137, 0.154), 60 (81, 0.091), 80 (84, 0.095), 100 (40, 0.045), 120 (22, 0.025), 140 (19, 0.021), 160 (22, 0.025), 180 (19, 0.021), 200 (1, 0.001), 280 (1, 0.001), 300 (1, 0.001), 360 (1, 0.001), 440 (1, 0.001), 880 (1, 0.001), 920 (1, 0.001), 1440 (1, 0.001)

For the frequency table, variable is rounded to the nearest 20

-----  
reporting.date  
n missing distinct  
1084 1 43

lowest : 02/01/20 02/02/20 02/03/20 02/04/20 02/05/20  
highest: 2/24/2020 2/25/2020 2/26/2020 2/27/2020 2/28/2020  
-----

summary  
n missing distinct  
1080 5 967

lowest : confirmed COVID-19 pneumonia patient No.11 in Tianjin: female, 55, symptom onset on 01/23/2020, hospitalized on 01/23/2020, confirmed on 01/26/2020

confirmed COVID-19 pneumonia patient No.12 in Tianjin: female, 79, symptom onset on 01/24/2020, hospitalized on 01/24/2020, confirmed on 01/26/2020

confirmed COVID-19 pneumonia patient No.13 in Tianjin: female, 19, symptom onset on 01/19/2020, hospitalized on 01/20/2020, confirmed on 01/26/2020

confirmed COVID-19 pneumonia patient No.14 in Tianjin: male, 71, Wuhan resident, visited Malaysia from 01/19/2020 to 01/25/2020, arrived in Tianjin on 01/25/2020, symptom onset on 01/25/2020, hospitalized on 01/25/2020, confirmed on 01/26/2020 confirmed imported COVID-19 pneumonia patient in Gansu: female, 20, lives in Wuhan, arrived in Gansu on 01/18/2020, symptom onset on 01/19/2020, visit clinic on 01/24/2020, hospitalized on 01/24/2020.

highest: new recovered imported COVID-19 pneumonia patient in Beijing: female, returned to Beijing from Wuhan on 01/08/2020, symptom onset afterwards, recovered on 01/24/2020.

new recovered imported COVID-19 pneumonia patient in Beijing: male, returned to Beijing from Wuhan on 01/08/2020, symptom onset afterwards, recovered on 01/25/2020.

Second confirmed imported COVID-19 pneumonia patient in Guangxi: male, 46, in contact with individuals from Wuhan before symptom onset. symptom onset on 01/20/2020.

Second confirmed imported COVID-19 pneumonia patient in Liaoning: male, 40, works in Wuhan, visit Fushun, Liaoning on 01/12/2020, symptom onset on 01/14/2020, visit clinic in Fushun Dalian on 01/19/2020.

Second confirmed imported COVID-19 pneumonia patient in Sichuan: male, 57, Wuhan resident, visited Sichuan on 01/15/2020, symptom onset on 01/16/2020 and hospitalized.

-----  
location  
n missing distinct

```

1085      0      156

lowest : Afghanistan      Aichi Prefecture Alappuzha      Algeria      Amiens
highest: Yunnan      Zabaikalsky      Zaragoza      Zhejiang      Zhuhai
-----
country
      n  missing distinct
1085      0      38

lowest : Afghanistan Algeria      Australia      Austria      Bahrain
highest: Thailand      UAE      UK      USA      Vietnam
-----
gender
      n  missing distinct
902      183      2

Value      female      male
Frequency      382      520
Proportion  0.424  0.576
-----
age
      n  missing distinct      Info      Mean      Gmd      .05
843      242      85      0.999      49.48      20.79      22.0
.10      .25      .50      .75      .90      .95
25.0      35.0      51.0      64.0      75.0      78.9

lowest : 0.25 0.50 1.00 2.00 4.00, highest: 86.00 87.00 89.00 91.00 96.00
-----
symptom_onset
      n  missing distinct
563      522      70

lowest : 01/02/20 01/03/20 01/04/20 01/05/20 01/06/20
highest: 2/22/2020 2/23/2020 2/24/2020 2/25/2020 2/26/2020
-----
If_onset_approximated
      n  missing distinct      Info      Sum      Mean      Gmd

```

560 525 2 0.123 24 0.04286 0.08219

-----  
hosp\_visit\_date

n	missing	distinct
507	578	60

lowest : 01/01/20 01/03/20 01/05/20 01/06/20 01/08/20

highest: 2/24/2020 2/25/2020 2/26/2020 2/27/2020 2/28/2020

-----  
exposure\_start

n	missing	distinct
128	957	39

lowest : 01/03/20 01/06/20 01/08/20 01/09/20 01/10/20

highest: 2/15/2020 2/17/2020 2/19/2020 2/20/2020 2/21/2020

-----  
exposure\_end

n	missing	distinct
341	744	52

lowest : 01/02/20 01/03/20 01/04/20 01/05/20 01/06/20

highest: 2/21/2020 2/22/2020 2/23/2020 2/24/2020 2/25/2020

-----  
visiting.Wuhan

n	missing	distinct	Info	Sum	Mean	Gmd
1085	0	2	0.437	192	0.177	0.2916

-----  
from.Wuhan

n	missing	distinct	Info	Sum	Mean	Gmd
1081	4	2	0.37	156	0.1443	0.2472

-----  
death

n	missing	distinct
1085	0	14

lowest : 0 02/01/20 1 2/13/2020 2/14/2020  
highest: 2/24/2020 2/25/2020 2/26/2020 2/27/2020 2/28/2020

0 (1022, 0.942), 02/01/20 (1, 0.001), 1 (42, 0.039), 2/13/2020  
(1, 0.001), 2/14/2020 (1, 0.001), 2/19/2020 (2, 0.002),  
2/21/2020 (2, 0.002), 2/22/2020 (1, 0.001), 2/23/2020 (4,  
0.004), 2/24/2020 (1, 0.001), 2/25/2020 (2, 0.002), 2/26/2020  
(3, 0.003), 2/27/2020 (2, 0.002), 2/28/2020 (1, 0.001)

-----  
recovered

n	missing	distinct
1085	0	32

lowest : 0 02/02/20 02/04/20 02/05/20 02/06/20  
highest: 2/24/2020 2/25/2020 2/26/2020 2/27/2020 2/28/2020

-----  
symptom

n	missing	distinct
270	815	108

lowest : chest discomfort	chills	cold, fever, pneumonia
cough	cough with sputum	
highest: throat pain, chills	throat pain, fever	tired
vomiting, cough, fever, sore throat	vomiting, diarrhea, fever, cough	

-----  
source

n	missing	distinct
1085	0	85

lowest : ǎṛ@è§†æ°é»	ABC	ABC News	æ°æµª	Al Arabiya
highest: Wa.de	Washington Examiner	Xin Hua Net	Yahoo News	Yonnhap News Agency

-----  
link

n	missing	distinct
1085	0	490

lowest : <http://behdasht.gov.ir/news/%D8%A9%D8%B1%D9%88%D9%86%D8%A7+%D9%88%DB%8C%D8%B1%D9%88%D8%B3/199807/%D8%AF%D8%B1+%D8%B1%D9%88%D8%B2%D9%87%D8%A7%DB%8C+%DA%AF%D8%B0%D8%B4%D8%AA%D9%87+735+%D8%A8%DB%8C%D9%85%D8%A7%D8%B1+%D8%A8%D8%A7+%D8%B9%D9%84%D8%A7%D8%A6%D9%85+%D8%B4%D8%A8%D9%87+%D8%A2%D9%86%D9%81%D9%84%D9%88%D8%A2%D9%86%D8%B2%D8%A7+%D8%AF%D8%B1+%DA%A9%D8%B4%D9%88%D8%B1+%D8%A8%D8%B3%D8%AA%D8%B1%DB%8C+%D8%B4%D8%AF%D9%86%D8%AF+%D8%A8%D8%B1+%D8%A7%D8%B3%D8%A7%D8%B3+%D8%A2%D8%AE%D8%B1%DB%8C%D9%86+%D9%86%D8%AA%D8%A7%DB%8C%D8%AC+%D8%A2%D8%B2%D9%85%D8%A7%DB%8C%D8%B4+%D9%87%D8%A7+%D8%A7%D8%A8%D8%AA%D9%84%D8%A7%DB%8C+13+%D9%85%D9%88%D8%B1%D8%AF+%D8%AF%DB%8C%DA%AF%D8%B1+%D8%A8%D9%87+%DA%A9%D9%88%D9%88%DB%8C%D8%AF19+%D9%82%D8%B7%D8%B9%DB%8C+%D8%A8%D9%87+%D9%86%D8%B8%D8%B1+%D9%85%DB%8C+%D8%B1%D8%B3%D8%AF> <http://english.alarabiya.net/en/News/gulf/2020/02/25/Number-of-Kuwait-coronavirus-cases-rises-to-eight-KUNA.html>

[http://sxwjw.shaanxi.gov.cn/art/2020/1/27/art\\_9\\_67483.html](http://sxwjw.shaanxi.gov.cn/art/2020/1/27/art_9_67483.html)

[http://wjw.beijing.gov.cn/xwzx\\_20031/wnxw/202001/t20200121\\_1620353.html](http://wjw.beijing.gov.cn/xwzx_20031/wnxw/202001/t20200121_1620353.html)

[http://wjw.sz.gov.cn/wzx/202001/t20200120\\_18987787.htm](http://wjw.sz.gov.cn/wzx/202001/t20200120_18987787.htm)

highest: [https://www3.nhk.or.jp/nhkworld/en/news/20200116\\_23/](https://www3.nhk.or.jp/nhkworld/en/news/20200116_23/)

[https://www3.nhk.or.jp/nhkworld/en/news/20200124\\_14/](https://www3.nhk.or.jp/nhkworld/en/news/20200124_14/)

[https://www3.nhk.or.jp/nhkworld/en/news/20200126\\_31/](https://www3.nhk.or.jp/nhkworld/en/news/20200126_31/)

[https://www3.nhk.or.jp/nhkworld/en/news/20200130\\_02/](https://www3.nhk.or.jp/nhkworld/en/news/20200130_02/)

[https://www3.nhk.or.jp/nhkworld/en/news/20200131\\_01/](https://www3.nhk.or.jp/nhkworld/en/news/20200131_01/)



Variables with all observations missing:

```
[1] X    X.1 X.2 X.3 X.4 X.5 X.6
```

## Death Rate

Hide

```
# if death variable isn't 0, then the patient has died
data$death_dummy <- as.integer(data$death != 0)

# death rate of our dataset
sum(data$death_dummy) / nrow(data)
```

```
[1] 0.05806452
```

## AGE

Hide

```
dead = subset(data, death_dummy == 1)
alive = subset(data, death_dummy == 0)
print("Dead Average Age")
```

```
[1] "Dead Average Age"
```

Hide

```
mean(dead$age, na.rm=TRUE)
```

```
[1] 68.58621
```

[Hide](#)

```
print("Living Average Age")
```

```
[1] "Living Average Age"
```

[Hide](#)

```
mean(alive$age, na.rm=TRUE)
```

```
[1] 48.07229
```

## Welch Two Sample t-test

[Hide](#)

```
t.test(dead$age, alive$age, alternative="two.sided", conf.level = 0.95)
```

Welch Two Sample t-test

```
data: dead$age and alive$age
t = 10.839, df = 72.234, p-value < 2.2e-16
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 16.74114 24.28669
sample estimates:
mean of x mean of y
 68.58621  48.07229
```

## Gender

[Hide](#)

```
men = subset(data, gender == "male")
women = subset(data, gender == "female")
print("Mean Age of dead males")
```

```
[1] "Mean Age of dead males"
```

Hide

```
mean(men$death_dummy, na.rm=TRUE)
```

```
[1] 0.08461538
```

Hide

```
print("Mean Age of dead females")
```

```
[1] "Mean Age of dead females"
```

Hide

```
mean(women$death_dummy, na.rm=TRUE)
```

```
[1] 0.03664921
```

Hide

```
t.test(men$death_dummy, women$death_dummy, alternative="two.sided", conf.level = 0.95)
```

Welch Two Sample t-test

data: men\$death\_dummy and women\$death\_dummy

```
t = 3.084, df = 894.06, p-value = 0.002105
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 0.01744083 0.07849151
sample estimates:
 mean of x  mean of y
0.08461538 0.03664921
```

## Visualisations

[Hide](#)

```
library(tidyverse)
```

```
Registered S3 methods overwritten by 'dbplyr':
  method      from
  print.tbl_lazy
  print.tbl_sql
-- Attaching packages ----- tidyverse 1.3.0 --
v tibble 3.0.4    v dplyr 1.0.2
v tidyr 1.1.2     v stringr 1.4.0
v readr 1.4.0     v forcats 0.5.0
v purrr 0.3.4
-- Conflicts ----- tidyverse_conflicts() --
x lubridate::as.difftime() masks base::as.difftime()
x lubridate::date()         masks base::date()
x dplyr::filter()           masks stats::filter()
x lubridate::intersect()    masks base::intersect()
x dplyr::lag()              masks stats::lag()
x lubridate::setdiff()      masks base::setdiff()
x dplyr::src()              masks Hmisc::src()
x dplyr::summarize()        masks Hmisc::summarize()
x lubridate::union()        masks base::union()
```

[Hide](#)

```
library(ggplot2)
library(readr)
library(maps)
```

Attaching package: 恸恠maps恠恡

The following object is masked from 恠恠package:purrr恠恡:

map

Hide

```
library(viridis)
```

Loading required package: viridisLite

Hide

```
## get the COVID-19 data
datacov <- read_csv("https://raw.githubusercontent.com/CSSEGISandData/COVID-19/master/csse_covid_19_data/csse_covid_19_time_series/time_series_covid19_confirmed_global.csv")
```

```
-- Column specification -----
cols(
  .default = col_double(),
  `Province/State` = col_character(),
  `Country/Region` = col_character()
)
i Use `spec()` for the full column specifications.
```

Hide

```
## get the world map
world <- map_data("world")
```

[Hide](#)

datacov

Province/State <chr>	Country/Region <chr>	Lat <dbl>	Long <dbl>	1/22/20 <dbl>	1/23/20 <dbl>	
NA	Afghanistan	33.939110	67.709953	0	0	
NA	Albania	41.153300	20.168300	0	0	
NA	Algeria	28.033900	1.659600	0	0	
NA	Andorra	42.506300	1.521800	0	0	
NA	Angola	-11.202700	17.873900	0	0	
NA	Antigua and Barbuda	17.060800	-61.796400	0	0	
NA	Argentina	-38.416100	-63.616700	0	0	
NA	Armenia	40.069100	45.038200	0	0	
Australian Capital Territory	Australia	-35.473500	149.012400	0	0	
New South Wales	Australia	-33.868800	151.209300	0	0	

1-10 of 271 rows | 1-6 of 328 columns

Previous [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) ... [28](#) [Next](#)

[Hide](#)

```
mybreaks <- c(1, 1000, 10000, 100000 ,1000000)

ggplot() +
  geom_polygon(data = world, aes(x=long, y = lat, group = group), fill="grey", alpha=0.3) +
```

```
geom_point(data=datcov, aes(x=Long, y=Lat, size=`12/8/20`, color=`12/8/20`),stroke=F, alpha=0.7) +
scale_size_continuous(name="Cases", trans="log", range=c(1,7),breaks=mybreaks, labels = c("1-1000", "1000-10,000", "10,000-100000", "1,00,000-10,00,000" , "10,00,000+")) +
# scale_alpha_continuous(name="Cases", trans="log", range=c(0.1, 0.9),breaks=mybreaks) +
scale_color_viridis_c(option="inferno",name="Cases", trans="log",breaks=mybreaks, labels = c("1-1000", "1000-10,000", "10,000-100000", "1,00,000-10,00,000" , "10,00,000+")) +
theme_void() +
guides( colour = guide_legend()) +
labs(caption = "Data Repository provided by Johns Hopkins CSSE.") +
theme(
  legend.position = "bottom",
  text = element_text(color = "#22211d"),
  plot.background = element_rect(fill = "#ffffff", color = NA),
  panel.background = element_rect(fill = "#ffffff", color = NA),
  legend.background = element_rect(fill = "#ffffff", color = NA)
)
```

