In [1]:
```
import requests
from pandas.io.json import json_normalize
URL = "https://api.covid19india.org/data.json"
data = requests.get(url=URL).json()
covid19_df = json_normalize(data['statewise'])
```

SUMMARIES OF DATA

In [7]:
```
df_morph = covid19_df[["state","statecode","active","confirmed","deaths"]].dro
p_duplicates()
df_morph
```

Out[7]:

	state	statecode	active	confirmed	deaths
0	Total	TT	13923	17340	559
1	Maharashtra	MH	3470	4200	223
2	Delhi	DL	1668	2003	45
3	Gujarat	GJ	1575	1743	63
4	Rajasthan	RJ	1250	1478	23
5	Tamil Nadu	TN	1051	1477	15
6	Madhya Pradesh	MP	1204	1407	72
7	Uttar Pradesh	UP	956	1100	17
8	Telangana	TG	651	858	21
9	Andhra Pradesh	AP	565	647	17
10	Kerala	KL	129	401	2
11	Karnataka	KA	263	390	16
12	Jammu and Kashmir	JK	293	354	5
13	West Bengal	WB	261	339	12
14	Haryana	HR	143	250	3
15	Punjab	PB	191	244	16
16	Bihar	BR	52	96	2
17	Odisha	OR	43	68	1
18	Uttarakhand	UT	33	44	0
19	Jharkhand	JH	39	41	2
20	Himachal Pradesh	HP	21	39	2
21	Chhattisgarh	CT	11	36	0
22	Assam	AS	17	35	1
23	Chandigarh	CH	13	26	0
24	Ladakh	LA	4	18	0
25	Andaman and Nicobar Islands	AN	4	15	0
26	Meghalaya	ML	10	11	1
27	Goa	GA	0	7	0
28	Puducherry	PY	3	7	0
29	Manipur	MN	1	2	0
30	Tripura	TR	1	2	0
31	Mizoram	MZ	1	1	0
32	Arunachal Pradesh	AR	0	1	0
33	Nagaland	NL	0	0	0
34	Dadra and Nagar Haveli	DN	0	0	0

	state	statecode	active	confirmed	deaths
35	Daman and Diu	DD	0	0	0
36	Lakshadweep	LD	0	0	0
37	Sikkim	SK	0	0	0

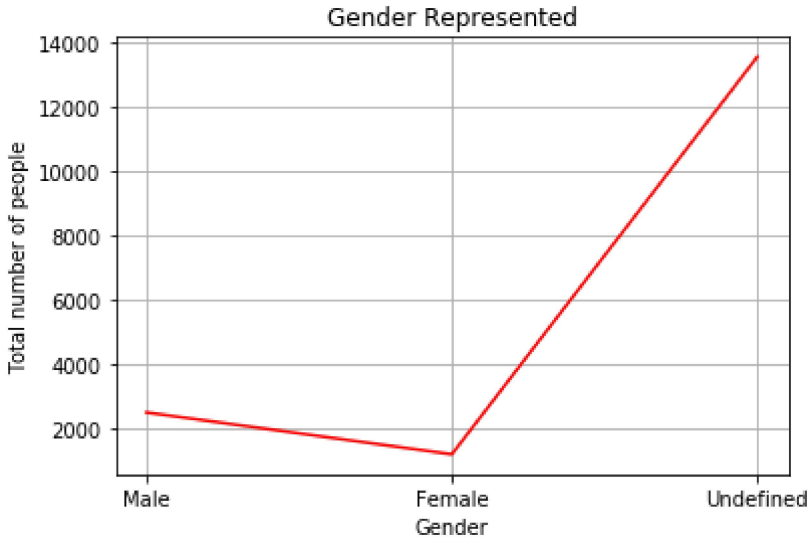
Data file Converting json to excel

In [15]:
```
import csv, json
import pandas as pd
import numpy  as np
import matplotlib.pyplot as pt
import requests
file=pd.read_excel('D:\\covidexcel.xlsx')
file.fillna("undefined", inplace = True)
json_file = open('D:\\raw_data.json','w')
url = requests.get('https://api.covid19india.org/raw_data.json')
json_file.write(str(url.text))
json_file.close()

#to load json file into variable
data = json.load(open('D:\\raw_data.json'))


#writing into cvs file
output = csv.writer(open('D:\\covidcsv.csv','w'))
output.writerow(data['raw_data'][0].keys())
for row in data['raw_data']:
    output.writerow(row.values())

#converting cvs file to excel
read_file = pd.read_csv (r'D:\\covidcsv.csv',encoding="cp1252")
read_file.to_excel (r'D:\\covidexcel.xlsx', index = None, header=True)
```

Line graph of gender represented

In [22]:
```
f=0
m=0
ud=0
for i in file['gender']:
    if(i=='M'):m=m+1
    elif(i=='F'):f=f+1
    else:ud=ud+1
print("-----> male :",m)
print("-----> female :",f)
print("-----> undefined :",ud)

gender=["Male","Female","Undefined"]
value=[m,f,ud]
pt.title("Gender Represented")
pt.xlabel("Gender")
pt.ylabel("Total number of people")
pt.plot(gender,value,color='red')
pt.grid(True)
pt.show()
```

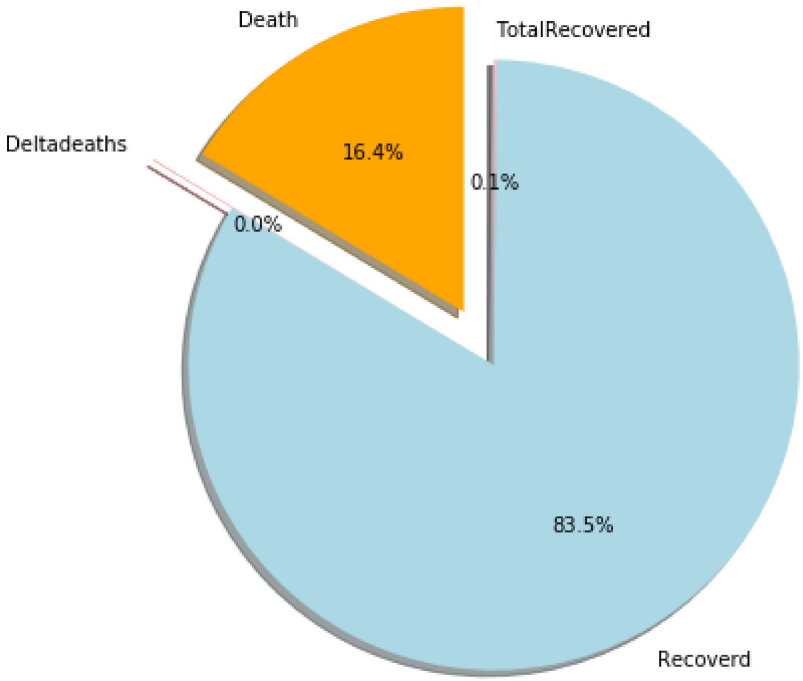
```
-----> male : 2523
-----> female : 1223
-----> undefined : 13566
```



Pie Chart for Death,Deltadeaths,Recoverd & TotalRecovered

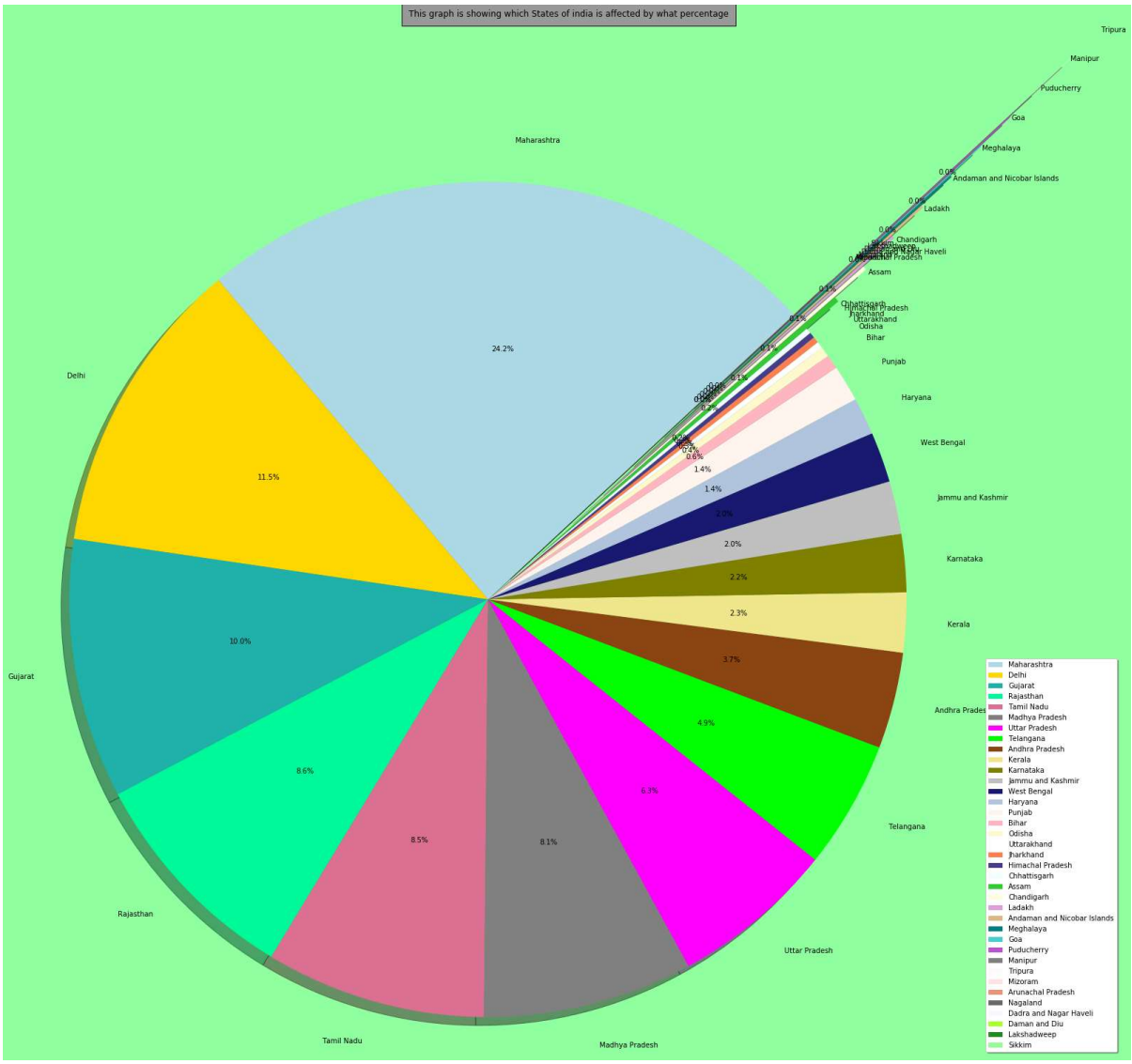
In [23]:
```
active=covid19_df['active'][0]
confirmed=covid19_df['confirmed'][0]
deltaconfirmed=covid19_df['deltaconfirmed'][0]
deaths=covid19_df['deaths'][0]
deltadeaths=covid19_df['deltadeaths'][0]
recovered=covid19_df['recovered'][0]
deltarecovered=covid19_df['deltarecovered'][0]
labels=['Death','Deltadeaths','Recoverd','TotalRecovered']
sizes=[deaths,deltadeaths,recovered,deltarecovered]
explode=[0.2,0.3,0,0]
colors = ['orange','red','lightblue','pink']
pt.figure(figsize = (10, 7))
pt.pie(sizes,labels=labels,colors=colors,shadow='true',autopct='%1.1f%%',explo
de=explode,startangle=90)
```

Out[23]:
```
([<matplotlib.patches.Wedge at 0x1b01e62c048>,
  <matplotlib.patches.Wedge at 0x1b01e62c9e8>,
  <matplotlib.patches.Wedge at 0x1b01e62e358>,
  <matplotlib.patches.Wedge at 0x1b01e62ec88>],
 [Text(-0.638780780605071, 1.1322363332491923, 'Death'),
  Text(-1.198948910439037, 0.7228564934736675, 'Deltadeaths'),
  Text(0.5369880539800044, -0.9600228277925312, 'Recoverd'),
  Text(0.005044981632652199, 1.0999884309211285, 'TotalRecovered')],
 [Text(-0.393095864987736, 0.6967608204610415, '16.4%'),
  Text(-0.7707528709965237, 0.46469346009021484, '0.0%'),
  Text(0.29290257489818416, -0.5236488151595624, '83.5%'),
  Text(0.002751808163264836, 0.5999936895933428, '0.1%')])
```



State affected by percentage

In [26]:
```
import matplotlib.colors as pltc
import matplotlib.pyplot as plt
from random import sample
import requests
from pandas.io.json import json_normalize
URL = "https://api.covid19india.org/data.json"
data = requests.get(url=URL).json()
covid19_df = json_normalize(data['statewise'])
T='This graph is showing which States of india is affected by what percentage'
explode = (0, 0, 0, 0, 0, 0, 0, 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.1,0.2,0.3,0.4,0.
5,0.6,0.7,0.8,0.9,0.1,0.10,0.11,0.12,0.13,0.14,0.15)
labels=covid19_df['state'][covid19_df["state"]!='Total']

all_colors = [ k for k,v in pltc.cnames.items() ]


for val in range(2):
    colors = sample(all_colors, len(labels))
fig = plt.figure(figsize=(28,27))
fig.patch.set_facecolor('xkcd:mint green')
size=covid19_df['confirmed'][covid19_df["state"]!='Total']
plt.pie(size,explode=explode, labels=labels, colors=colors,autopct='%1.1f%%',s
hadow=True,startangle=43)
plt.legend(labels, loc="best",shadow=True)
plt.axis('equal')
plt.title(T,bbox={'facecolor':'0.6', 'pad':10})
plt.show()
covid19_df.tail()
```



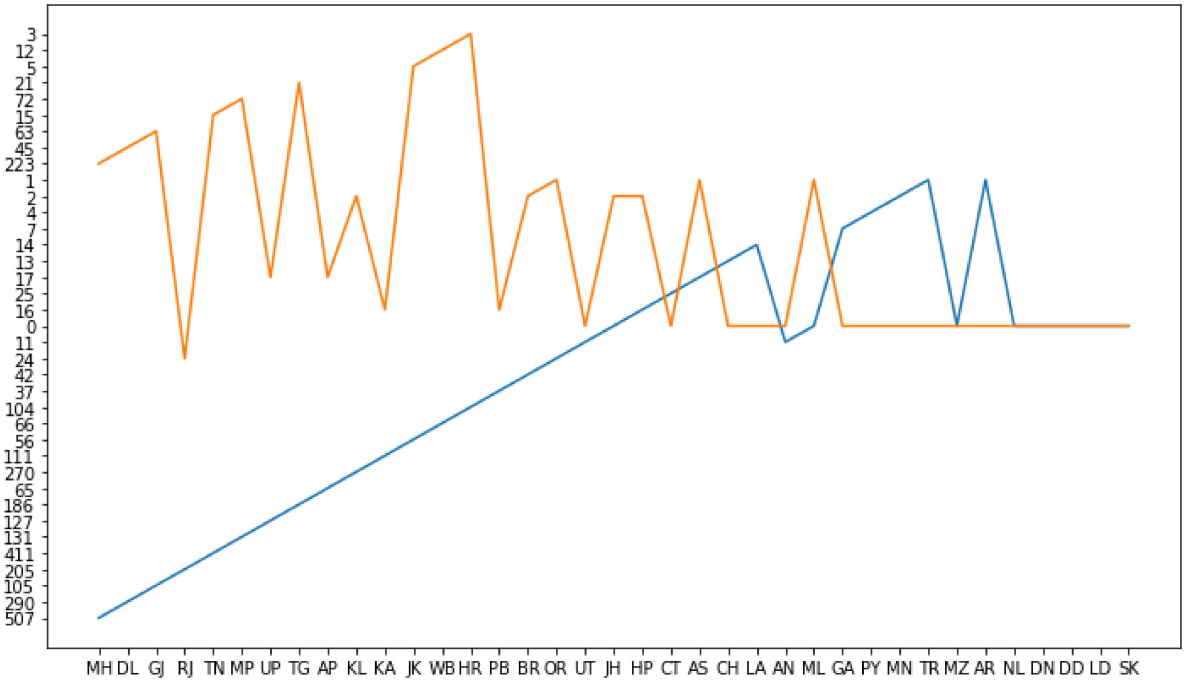
Out[26]:

	active	confirmed	deaths	deltaconfirmed	deltadeaths	deltarecovered	lastupdatedtime	recc
33	0	0	0	0	0	0	20/04/2020 08:45:07	
34	0	0	0	0	0	0	17/04/2020 15:03:07	
35	0	0	0	0	0	0	26/03/2020 07:19:29	
36	0	0	0	0	0	0	26/03/2020 07:19:29	
37	0	0	0	0	0	0	26/03/2020 07:19:29	

Line Plot - Deaths and Recovered Statewise

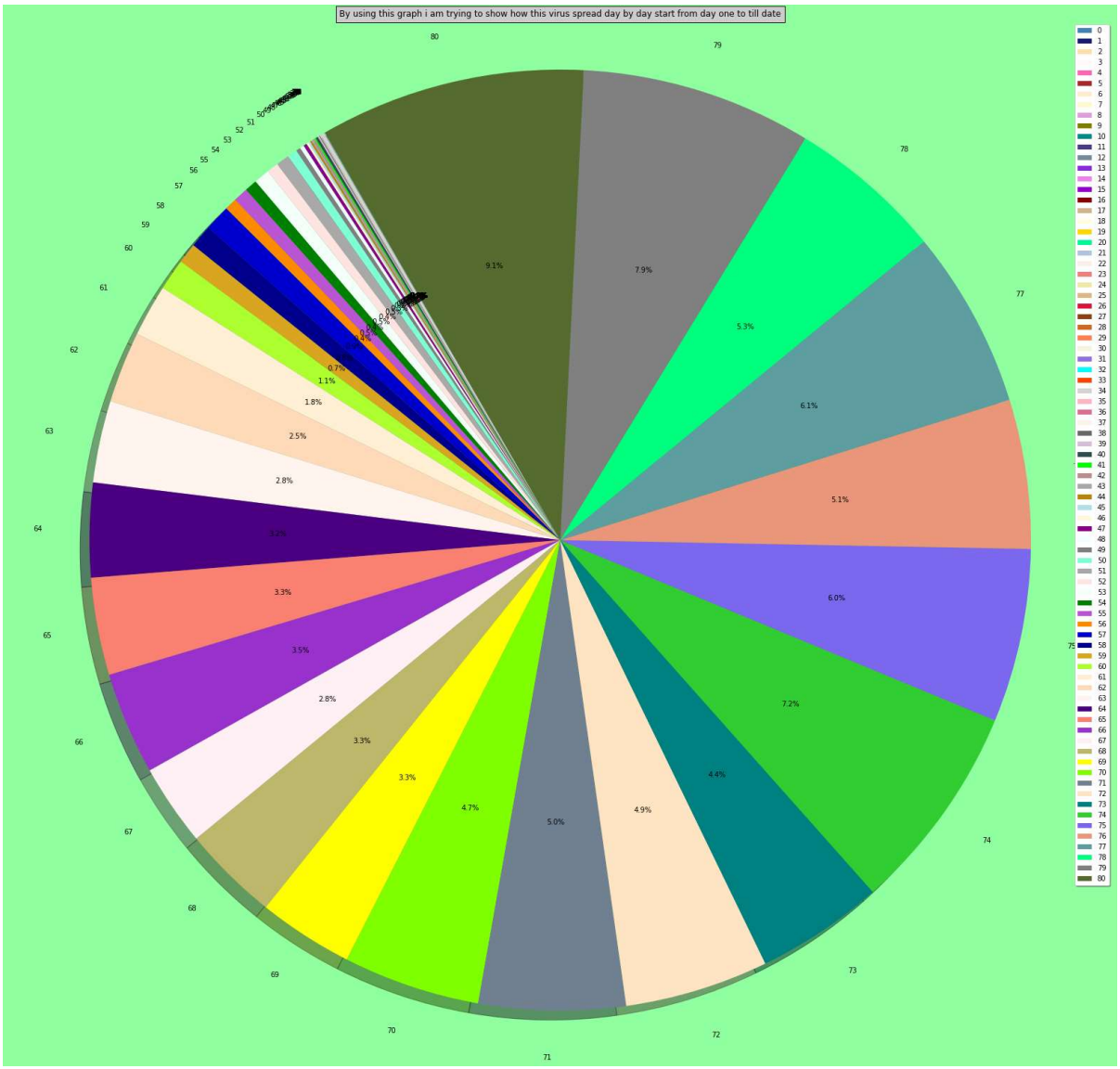
In [32]:
```
import matplotlib.pyplot as plt
import requests
from pandas.io.json import json_normalize
URL = "https://api.covid19india.org/data.json"
data = requests.get(url=URL).json()
covid19_df = json_normalize(data['statewise'])
covid19_dfnew=covid19_df.drop(covid19_df.index[[0]])
plt.figure(figsize = (12, 7))
statecode=covid19_dfnew['statecode']
recovered=covid19_dfnew['recovered']
deaths=covid19_dfnew['deaths']
plt.plot(statecode, recovered, label='covid-19')
plt.plot(statecode, deaths, label='covid-19')
import itertools
for (a,b) in zip(covid19_dfnew['statecode'], covid19_dfnew['state']):
    print(a , ' = ' , b)
```

```
MH  =  Maharashtra
DL  =  Delhi
GJ  =  Gujarat
RJ  =  Rajasthan
TN  =  Tamil Nadu
MP  =  Madhya Pradesh
UP  =  Uttar Pradesh
TG  =  Telangana
AP  =  Andhra Pradesh
KL  =  Kerala
KA  =  Karnataka
JK  =  Jammu and Kashmir
WB  =  West Bengal
HR  =  Haryana
PB  =  Punjab
BR  =  Bihar
OR  =  Odisha
UT  =  Uttarakhand
JH  =  Jharkhand
HP  =  Himachal Pradesh
CT  =  Chhattisgarh
AS  =  Assam
CH  =  Chandigarh
LA  =  Ladakh
AN  =  Andaman and Nicobar Islands
ML  =  Meghalaya
GA  =  Goa
PY  =  Puducherry
MN  =  Manipur
TR  =  Tripura
MZ  =  Mizoram
AR  =  Arunachal Pradesh
NL  =  Nagaland
DN  =  Dadra and Nagar Haveli
DD  =  Daman and Diu
LD  =  Lakshadweep
SK  =  Sikkim
```



How this virus spread day by day start from day one to till date

In [36]:
```
import requests
import matplotlib.pyplot as plt
from random import sample
import matplotlib.colors as pltc
all_colors = [k for k,v in pltc.cnames.items()]
from pandas.io.json import json_normalize
URL = "https://api.covid19india.org/data.json"
data = requests.get(url=URL).json()
covid19_df = json_normalize(data['cases_time_series'])
T='By using this graph i am trying to show how this virus spread day by day st
art from day one to till date'
labels=covid19_df.index
for val in range(2):
 colors = sample(all_colors, len(labels))
fig = plt.figure(figsize=(28,27))
fig.patch.set_facecolor('xkcd:mint green')
plt.pie(covid19_df['dailyconfirmed'], labels=labels, colors=colors,autopct='%
1.1f%%',shadow=True,startangle=120)
plt.legend(labels, loc="best",shadow=True)
plt.axis('equal')
plt.title(T,bbox={'facecolor':'0.8', 'pad':5})
plt.show()
covid19_df.tail()
```



Out[36]:

	dailyconfirmed	dailydeceased	dailyrecovered	date	totalconfirmed	totaldeceased	totalrecov
76	886	27	144	15 April	12370	422	
77	1061	26	258	16 April	13431	448	
78	922	38	273	17 April	14353	486	
79	1371	35	426	18 April	15724	521	
80	1580	38	388	19 April	17304	559	

In [ ]: