

```
In [ ]: import pandas as pd
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In [4]: import numpy as np
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In [5]: import random
```

```
In [7]: df=pd.read_csv("country_wise_latest.csv")
```

```
In [8]: df
```

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase	WHO Region
0	Afghanistan	36263	1269	25198	9796	106	10	18	3.50	69.49	5.04	35526	737	2.07	Eastern Mediterranean
1	Albania	4880	144	2745	1991	117	6	63	2.95	56.25	5.25	4171	709	17.00	Europe
2	Algeria	27973	1163	18837	7973	616	8	749	4.16	67.34	6.17	23691	4282	18.07	Africa
3	Andorra	907	52	803	52	10	0	0	5.73	88.53	6.48	884	23	2.60	Europe
4	Angola	950	41	242	667	18	1	0	4.32	25.47	16.94	749	201	26.84	Africa
...
182	West Bank and Gaza	10621	78	3752	6791	152	2	0	0.73	35.33	2.08	8916	1705	19.12	Eastern Mediterranean
183	Western Sahara	10	1	8	1	0	0	0	10.00	80.00	12.50	10	0	0.00	Africa
184	Yemen	1691	483	833	375	10	4	36	28.56	49.26	57.98	1619	72	4.45	Eastern Mediterranean
185	Zambia	4552	140	2815	1597	71	1	465	3.08	61.84	4.97	3326	1226	36.86	Africa
186	Zimbabwe	2704	36	542	2126	192	2	24	1.33	20.04	6.64	1713	991	57.85	Africa

187 rows × 15 columns

```
In [9]: df.head()
```

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase	WHO Region
0	Afghanistan	36263	1269	25198	9796	106	10	18	3.50	69.49	5.04	35526	737	2.07	Eastern Mediterranean
1	Albania	4880	144	2745	1991	117	6	63	2.95	56.25	5.25	4171	709	17.00	Europe
2	Algeria	27973	1163	18837	7973	616	8	749	4.16	67.34	6.17	23691	4282	18.07	Africa
3	Andorra	907	52	803	52	10	0	0	5.73	88.53	6.48	884	23	2.60	Europe
4	Angola	950	41	242	667	18	1	0	4.32	25.47	16.94	749	201	26.84	Africa

In [10]: df.tail(10)

Out[10]:

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase	WHO Region
177	United Kingdom	301708	45844	1437	254427	688	7	3	15.19	0.48	3190.26	296944	4764	1.60	Europe
178	Uruguay	1202	35	951	216	10	1	3	2.91	79.12	3.68	1064	138	12.97	Americas
179	Uzbekistan	21209	121	11674	9414	678	5	569	0.57	55.04	1.04	17149	4060	23.67	Europe
180	Venezuela	15988	146	9959	5883	525	4	213	0.91	62.29	1.47	12334	3654	29.63	Americas
181	Vietnam	431	0	365	66	11	0	0	0.00	84.69	0.00	384	47	12.24	Western Pacific
182	West Bank and Gaza	10621	78	3752	6791	152	2	0	0.73	35.33	2.08	8916	1705	19.12	Eastern Mediterranean
183	Western Sahara	10	1	8	1	0	0	0	10.00	80.00	12.50	10	0	0.00	Africa
184	Yemen	1691	483	833	375	10	4	36	28.56	49.26	57.98	1619	72	4.45	Eastern Mediterranean
185	Zambia	4552	140	2815	1597	71	1	465	3.08	61.84	4.97	3326	1226	36.86	Africa
186	Zimbabwe	2704	36	542	2126	192	2	24	1.33	20.04	6.64	1713	991	57.85	Africa

In [11]: df.isnull()

Out[11]:

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase	WHO Region
0	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
...
182	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
183	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
184	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
185	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False
186	False	False	False	False	False	False	False	False	False	False	False	False	False	False	False

187 rows × 15 columns

In [12]: df.describe()

Out[12]:

	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase
count	1.870000e+02	187.000000	1.870000e+02	1.870000e+02	187.000000	187.000000	187.000000	187.000000	187.000000	187.00	1.870000e+02	187.000000	187.000000
mean	8.813094e+04	3497.518717	5.063148e+04	3.400194e+04	1222.957219	28.957219	933.812834	3.019519	64.820535	inf	7.868248e+04	9448.459893	13.606203
std	3.833187e+05	14100.002482	1.901882e+05	2.133262e+05	5710.374790	120.037173	4197.719635	3.454302	26.287694	NaN	3.382737e+05	47491.127684	24.509838
min	1.000000e+01	0.000000	0.000000e+00	0.000000e+00	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	1.000000e+01	-47.000000	-3.840000
25%	1.114000e+03	18.500000	6.265000e+02	1.415000e+02	4.000000	0.000000	0.000000	0.945000	48.770000	1.45	1.051500e+03	49.000000	2.775000
50%	5.059000e+03	108.000000	2.815000e+03	1.600000e+03	49.000000	1.000000	22.000000	2.150000	71.320000	3.62	5.020000e+03	432.000000	6.890000
75%	4.046050e+04	734.000000	2.260600e+04	9.149000e+03	419.500000	6.000000	221.000000	3.875000	86.885000	6.44	3.708050e+04	3172.000000	16.855000
max	4.290259e+06	148011.000000	1.846641e+06	2.816444e+06	56336.000000	1076.000000	33728.000000	28.560000	100.000000	inf	3.834677e+06	455582.000000	226.320000

In [13]:

df.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 187 entries, 0 to 186
Data columns (total 15 columns):
 #   Column           Non-Null Count  Dtype  
 ---  --  
 0   Country/Region    187 non-null   object  
 1   Confirmed         187 non-null   int64  
 2   Deaths            187 non-null   int64  
 3   Recovered         187 non-null   int64  
 4   Active             187 non-null   int64  
 5   New cases         187 non-null   int64  
 6   New deaths        187 non-null   int64  
 7   New recovered     187 non-null   int64  
 8   Deaths / 100 Cases 187 non-null   float64 
 9   Recovered / 100 Cases 187 non-null   float64 
 10  Deaths / 100 Recovered 187 non-null   float64 
 11  Confirmed last week 187 non-null   int64  
 12  1 week change     187 non-null   int64  
 13  1 week % increase 187 non-null   float64 
 14  WHO Region        187 non-null   object  
dtypes: float64(4), int64(9), object(2)
memory usage: 22.0+ KB
```

In [14]:

df.isnull().sum()

```
Out[14]: Country/Region      0  
Confirmed          0  
Deaths             0  
Recovered          0  
Active              0  
New cases          0  
New deaths          0  
New recovered        0  
Deaths / 100 Cases    0  
Recovered / 100 Cases   0  
Deaths / 100 Recovered     0  
Confirmed last week      0  
1 week change          0  
1 week % increase        0  
WHO Region           0  
dtype: int64
```

```
In [15]: df.size
```

```
Out[15]: 2805
```

```
In [16]: df.shape
```

```
Out[16]: (187, 15)
```

```
In [19]: df.dtypes
```

```
Out[19]: Country/Region      object  
Confirmed          int64  
Deaths             int64  
Recovered          int64  
Active              int64  
New cases          int64  
New deaths          int64  
New recovered        int64  
Deaths / 100 Cases    float64  
Recovered / 100 Cases   float64  
Deaths / 100 Recovered     float64  
Confirmed last week      int64  
1 week change          int64  
1 week % increase        float64  
WHO Region           object  
dtype: object
```

```
In [20]: df['Deaths'] = df['Deaths'].astype('float64')
```

```
In [22]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 187 entries, 0 to 186
Data columns (total 15 columns):
 #   Column           Non-Null Count  Dtype  
 --- 
 0   Country/Region    187 non-null    object  
 1   Confirmed         187 non-null    int64  
 2   Deaths            187 non-null    float64 
 3   Recovered         187 non-null    int64  
 4   Active             187 non-null    int64  
 5   New cases         187 non-null    int64  
 6   New deaths        187 non-null    int64  
 7   New recovered     187 non-null    int64  
 8   Deaths / 100 Cases 187 non-null    float64 
 9   Recovered / 100 Cases 187 non-null    float64 
 10  Deaths / 100 Recovered 187 non-null    float64 
 11  Confirmed last week 187 non-null    int64  
 12  1 week change    187 non-null    int64  
 13  1 week % increase 187 non-null    float64 
 14  WHO Region        187 non-null    object  
dtypes: float64(5), int64(8), object(2)
memory usage: 22.0+ KB
```

```
In [26]: df['WHO Region'].replace({'Eastern Mediterranean':'EM','Western Pacific':'WP'},inplace=True)
df
```

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase	WHO Region
0	Afghanistan	36263	1269.0	25198	9796	106	10	18	3.50	69.49	5.04	35526	737	2.07	EM
1	Albania	4880	144.0	2745	1991	117	6	63	2.95	56.25	5.25	4171	709	17.00	Europe
2	Algeria	27973	1163.0	18837	7973	616	8	749	4.16	67.34	6.17	23691	4282	18.07	Africa
3	Andorra	907	52.0	803	52	10	0	0	5.73	88.53	6.48	884	23	2.60	Europe
4	Angola	950	41.0	242	667	18	1	0	4.32	25.47	16.94	749	201	26.84	Africa
...
182	West Bank and Gaza	10621	78.0	3752	6791	152	2	0	0.73	35.33	2.08	8916	1705	19.12	EM
183	Western Sahara	10	1.0	8	1	0	0	0	10.00	80.00	12.50	10	0	0.00	Africa
184	Yemen	1691	483.0	833	375	10	4	36	28.56	49.26	57.98	1619	72	4.45	EM
185	Zambia	4552	140.0	2815	1597	71	1	465	3.08	61.84	4.97	3326	1226	36.86	Africa
186	Zimbabwe	2704	36.0	542	2126	192	2	24	1.33	20.04	6.64	1713	991	57.85	Africa

187 rows × 15 columns

```
In [28]: df
```

Out[28]:

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase	WHO Region
0	Afghanistan	36263	1269.0	25198	9796	106	10	18	3.50	69.49	5.04	35526	737	2.07	EM
1	Albania	4880	144.0	2745	1991	117	6	63	2.95	56.25	5.25	4171	709	17.00	Europe
2	Algeria	27973	1163.0	18837	7973	616	8	749	4.16	67.34	6.17	23691	4282	18.07	Africa
3	Andorra	907	52.0	803	52	10	0	0	5.73	88.53	6.48	884	23	2.60	Europe
4	Angola	950	41.0	242	667	18	1	0	4.32	25.47	16.94	749	201	26.84	Africa
...
182	West Bank and Gaza	10621	78.0	3752	6791	152	2	0	0.73	35.33	2.08	8916	1705	19.12	EM
183	Western Sahara	10	1.0	8	1	0	0	0	10.00	80.00	12.50	10	0	0.00	Africa
184	Yemen	1691	483.0	833	375	10	4	36	28.56	49.26	57.98	1619	72	4.45	EM
185	Zambia	4552	140.0	2815	1597	71	1	465	3.08	61.84	4.97	3326	1226	36.86	Africa
186	Zimbabwe	2704	36.0	542	2126	192	2	24	1.33	20.04	6.64	1713	991	57.85	Africa

187 rows × 15 columns

In [31]:

```
df['Deaths'] = df['Deaths'].astype('int64')
```

In [32]:

df

Out[32]:

	Country/Region	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	Deaths / 100 Cases	Recovered / 100 Cases	Deaths / 100 Recovered	Confirmed last week	1 week change	1 week % increase	WHO Region
0	Afghanistan	36263	1269	25198	9796	106	10	18	3.50	69.49	5.04	35526	737	2.07	EM
1	Albania	4880	144	2745	1991	117	6	63	2.95	56.25	5.25	4171	709	17.00	Europe
2	Algeria	27973	1163	18837	7973	616	8	749	4.16	67.34	6.17	23691	4282	18.07	Africa
3	Andorra	907	52	803	52	10	0	0	5.73	88.53	6.48	884	23	2.60	Europe
4	Angola	950	41	242	667	18	1	0	4.32	25.47	16.94	749	201	26.84	Africa
...
182	West Bank and Gaza	10621	78	3752	6791	152	2	0	0.73	35.33	2.08	8916	1705	19.12	EM
183	Western Sahara	10	1	8	1	0	0	0	10.00	80.00	12.50	10	0	0.00	Africa
184	Yemen	1691	483	833	375	10	4	36	28.56	49.26	57.98	1619	72	4.45	EM
185	Zambia	4552	140	2815	1597	71	1	465	3.08	61.84	4.97	3326	1226	36.86	Africa
186	Zimbabwe	2704	36	542	2126	192	2	24	1.33	20.04	6.64	1713	991	57.85	Africa

187 rows × 15 columns

