# Time Series Visualization

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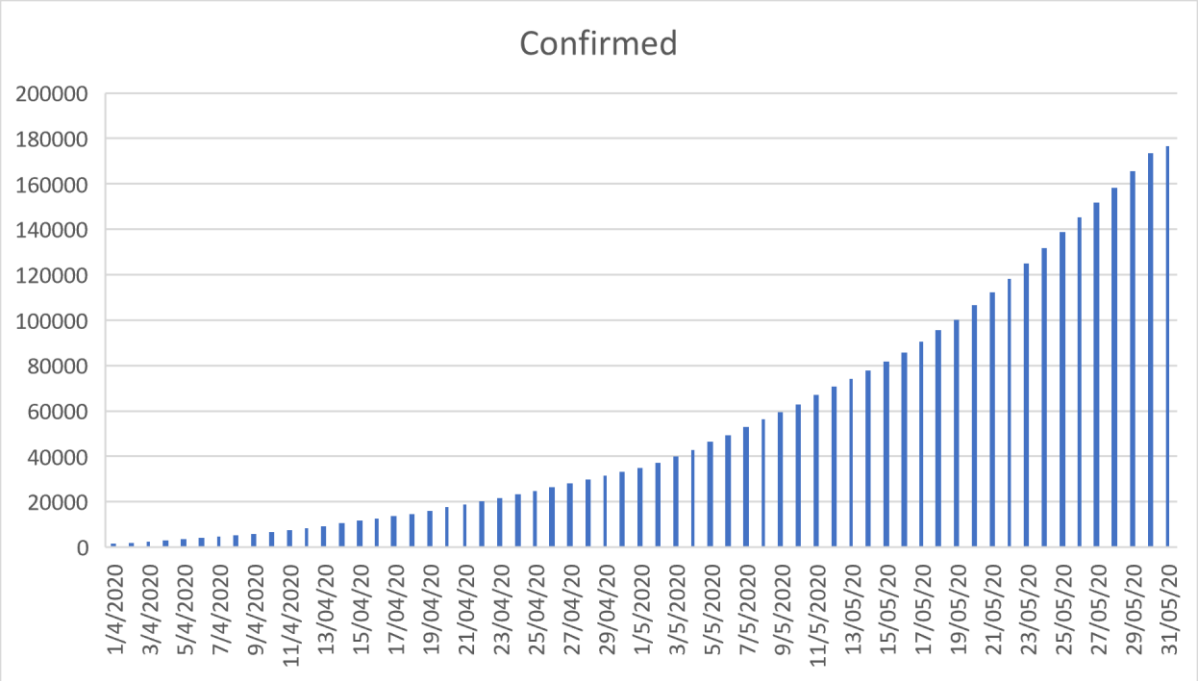
## 18BCE1010

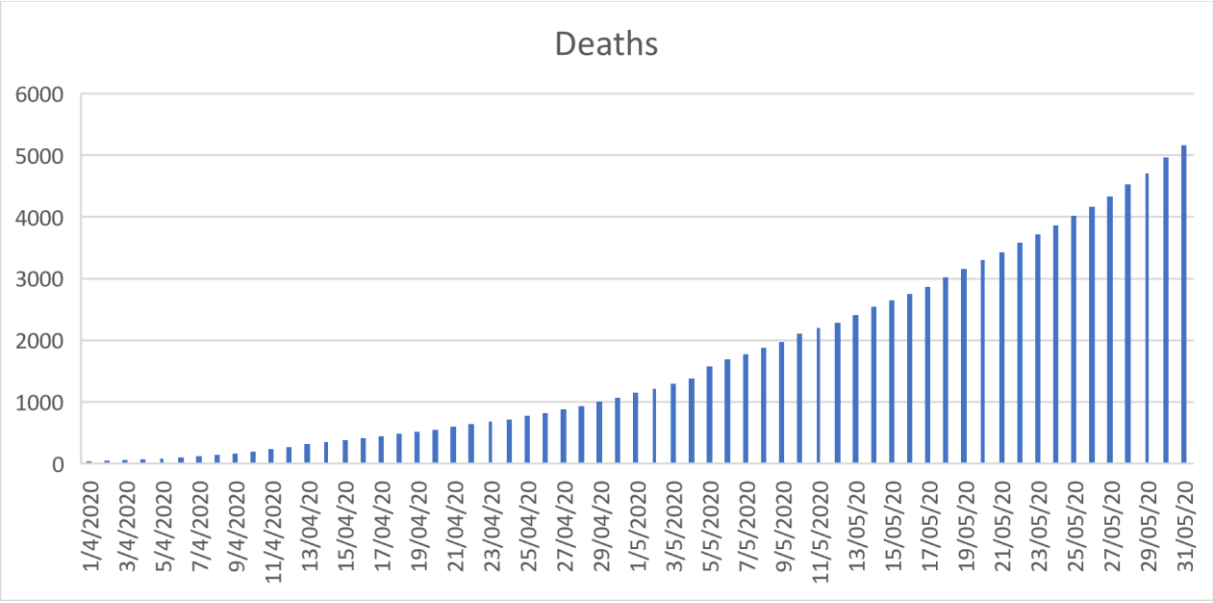
**Dataset:** https://www.kaggle.com/sudalairajkumar/covid19-in-india?select=covid_19_india.csv

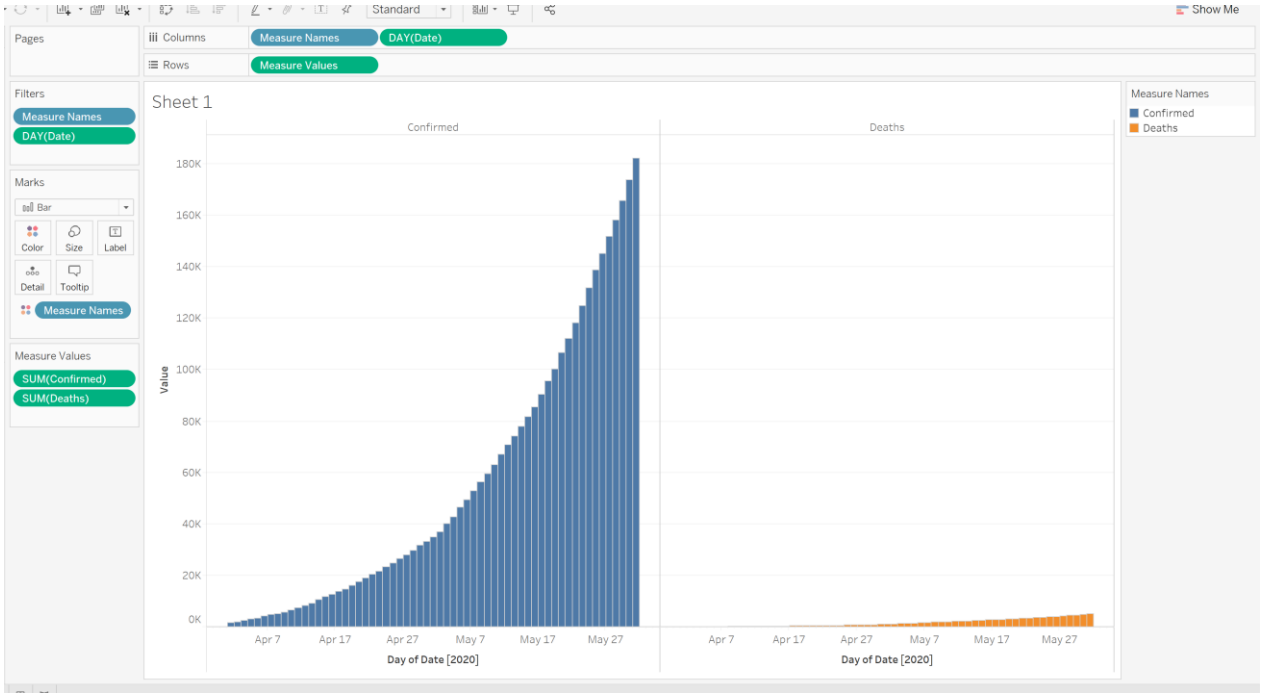
**Tools used:** MS Excel, Tableau and Python

**Confirmed Cases**




**Deaths in India:**






**For prediction:**

```
[1] import pandas as pd
    from google.colab import files
    uploaded = files.upload();
```

Choose Files | new.csv

- **new.csv**(application/vnd.ms-excel) - 29543 bytes, last modified: 6/5/2020 - 100% done

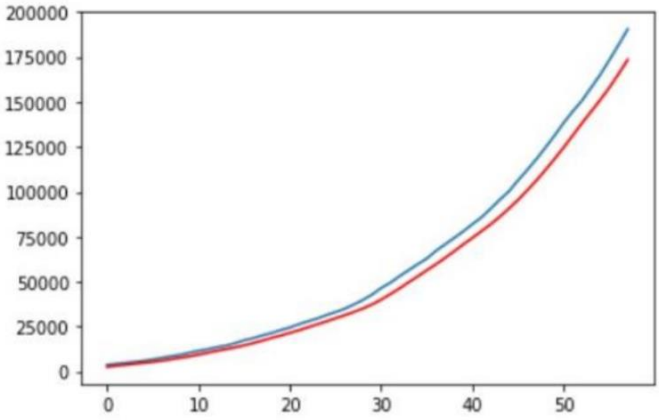
Saving new.csv to new.csv

```
[2] for fn in uploaded.keys():
        print('User uploaded file "{name}" with length {length} bytes'.format(name=fn, length=len(uploaded[fn])))
```

```
User uploaded file "new.csv" with length 29543 bytes
```

```
[3] from pandas import read_csv
    from matplotlib import pyplot
    from numpy import mean
    from sklearn.metrics import mean_squared_error
    from matplotlib import pyplot
```

```
series = read_csv('new.csv', header=0, index_col=0, parse_dates=True, squeeze=True)
X = series.values
window = 3
history = [X[i] for i in range(window)]
test = [X[i] for i in range(window, len(X))]
predictions = list()
# walk forward over time steps in test
for t in range(len(test)):
  length = len(history)
  yhat = mean([history[i] for i in range(length-window,length)])
  obs = test[t]
  predictions.append(yhat)
  history.append(obs)
  print('predicted=%f, expected=%f' % (yhat, obs))
error = mean_squared_error(test, predictions)
print('Test MSE: %.3f' % error)
# plot
pyplot.plot(test)
pyplot.plot(predictions, color='red')
pyplot.show()
# zoom plot
pyplot.plot(test[0:100])
pyplot.plot(predictions[0:100], color='red')
pyplot.show()
```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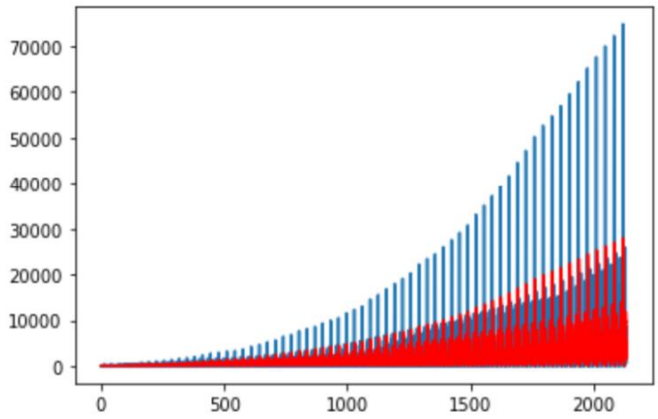
150000
125000
100000
75000
50000
25000
0
0
10
20
30
40
50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2000