

## FORECASTING DATA

Code in Python, forecast the missing data of August 2023 to the 31th December 2023:

```
#Libraries
import pandas as pd
from prophet import Prophet
import matplotlib.pyplot as plt

claims_data = pd.read_csv("Demand Historical dataset PY.csv")
#print(claims_data.info)

#convert date to timestamp
claims_data["date"] = pd.to_datetime(claims_data["date"])

#rename the x axis and y axis
claims_data = claims_data.rename(columns={'date':'ds','number of claims':'y'})

#Avoid weekends
claims_data = claims_data[claims_data['ds'].dt.dayofweek < 5]

#Lets create the prophet model and fit the model
model = Prophet()
model.fit(claims_data)

#print(model.predict(future_dates))

#Now let's predict the remaining months of 2023 since the data is only completed
till july 2023.
#145 days for the remaining months since 8 august to first of January 2024
future_dates = model.make_future_dataframe(periods=145, freq= 'D')

forecast = model.predict(future_dates)
#Export Data to CSV
forecast.to_csv('PredictOutput3.csv')
#Visualize the predicted claims for the remaining months
plt.figure()
model.plot(forecast, xlabel='date' , ylabel='number of claims')
plt.title('Claims Forecast')
plt.show()
```

Forecast graph of the remaining months of 2023:

