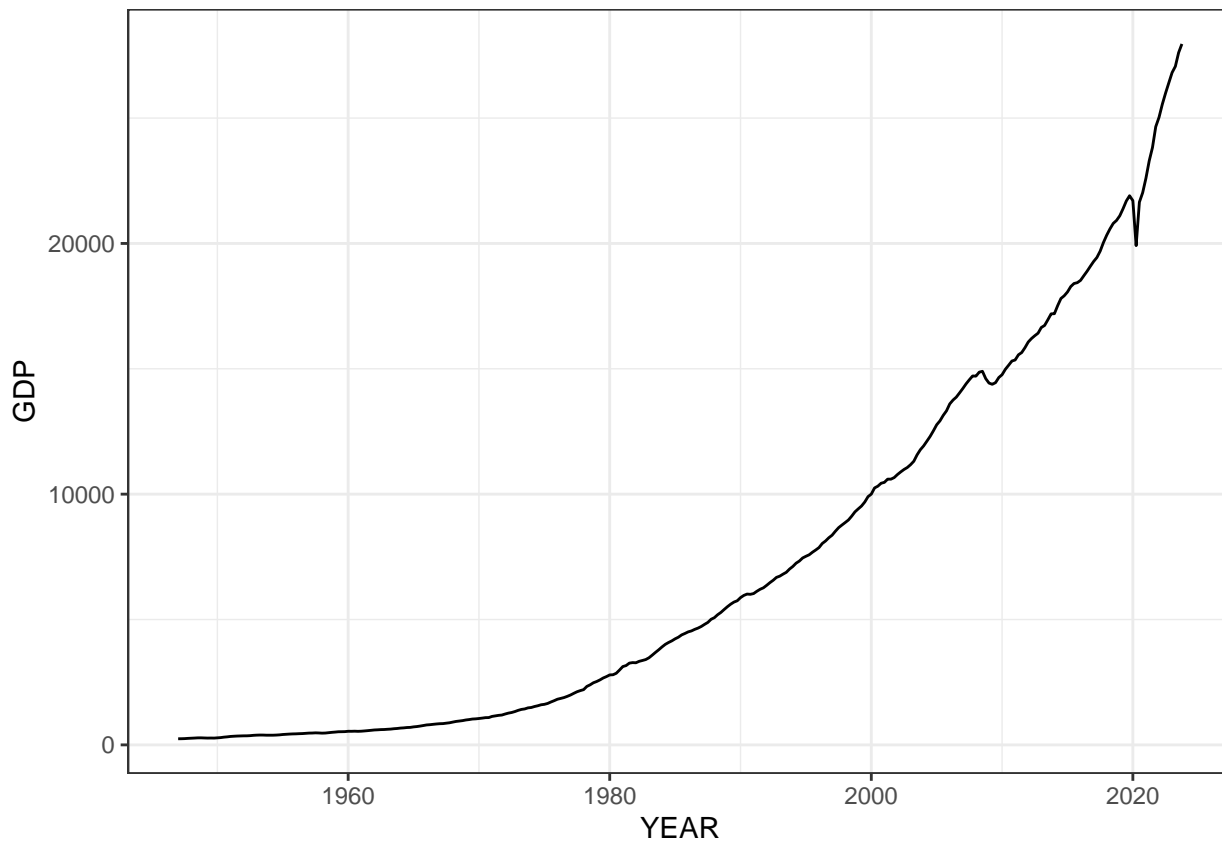


## Assignment-4

I went with GPD. Here's the data:



(You can literally *see* COVID-19 on this plot. Same with 2008.)

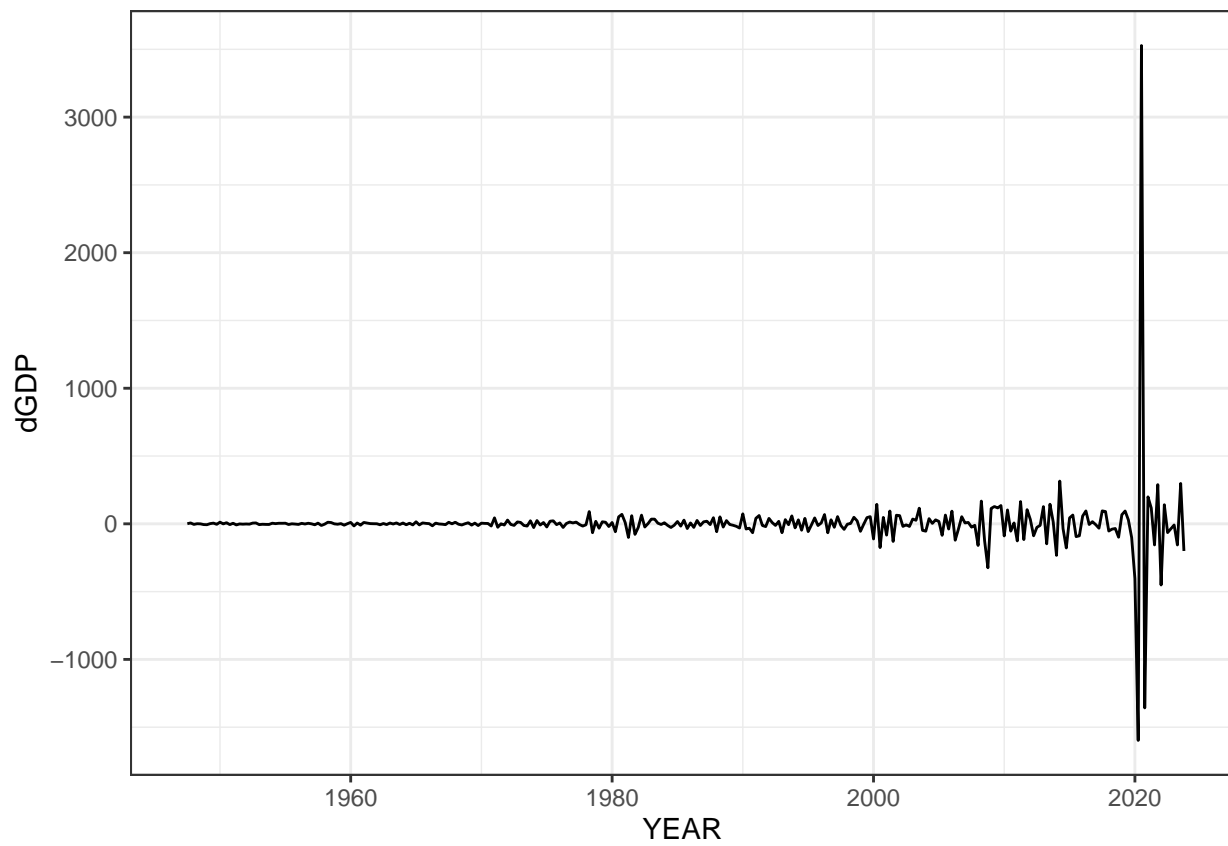
The “unit of time” in this case is a quarter.

### KPSS Test

4.6968895, we reject the null (the null being that “the GDP is stationary”).

¬“The GDP is stationary.” → “The GDP is non-stationary.”

## Differencing



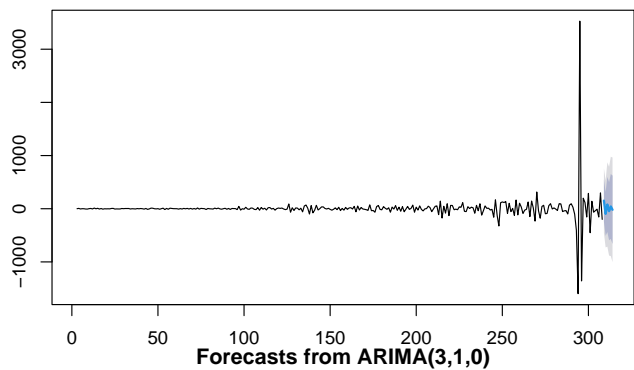
To achieve this result, I had to run differencing twice. (See `Assignment-4-Data.R`.)

## 2<sup>nd</sup> KPSS Test

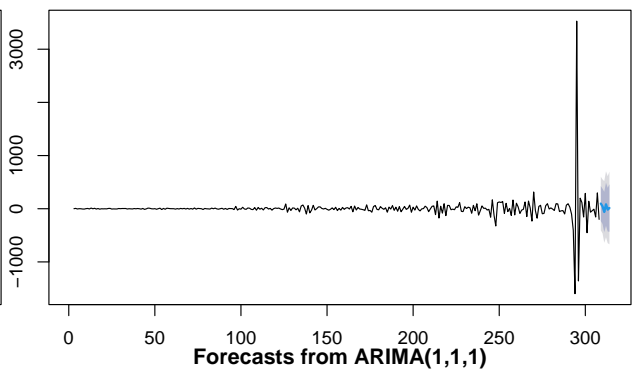
0.011925, we do not reject the null.

## Some ARIMA Forecasts

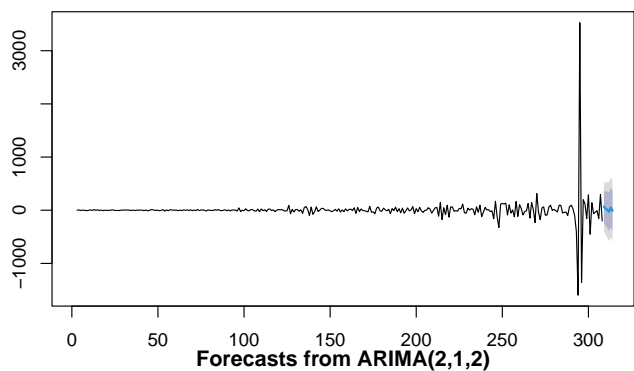
Forecasts from ARIMA(1,1,0)



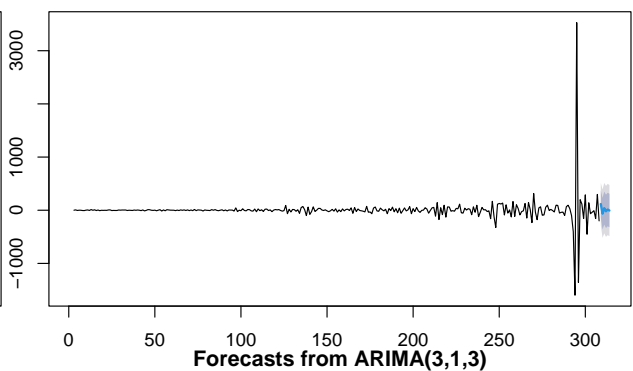
Forecasts from ARIMA(2,1,0)



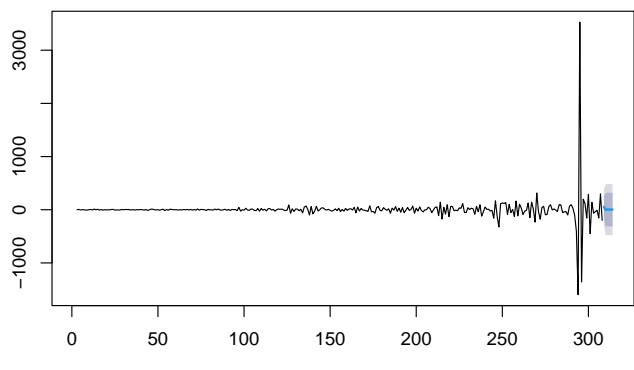
Forecasts from ARIMA(3,1,0)



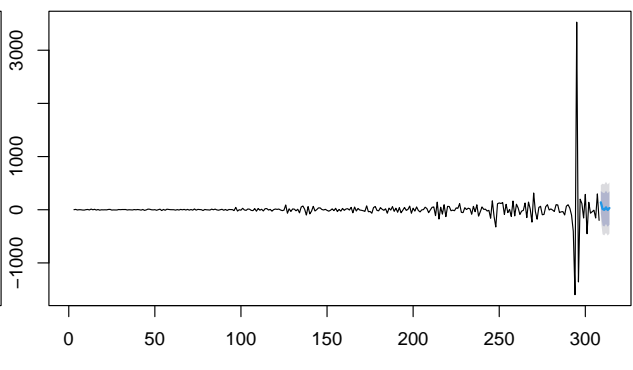
Forecasts from ARIMA(1,1,1)



Forecasts from ARIMA(2,1,2)



Forecasts from ARIMA(3,1,3)



Best ARIMA Forecast (According to AIC)

### Forecasts from ARIMA(1,1,0)

