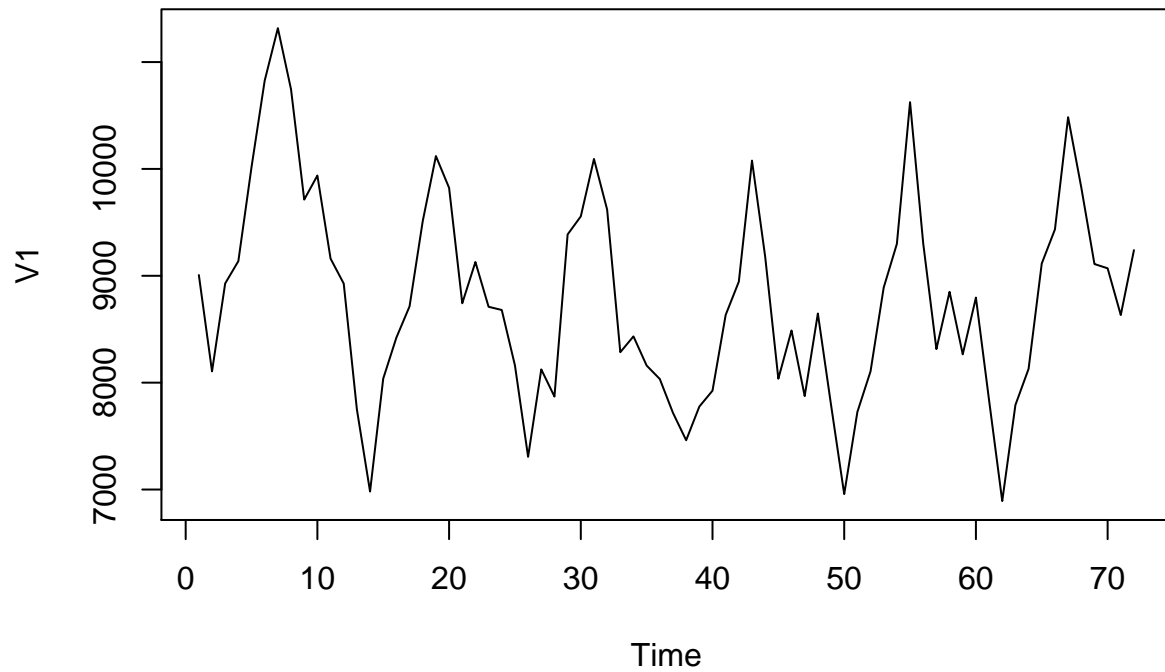
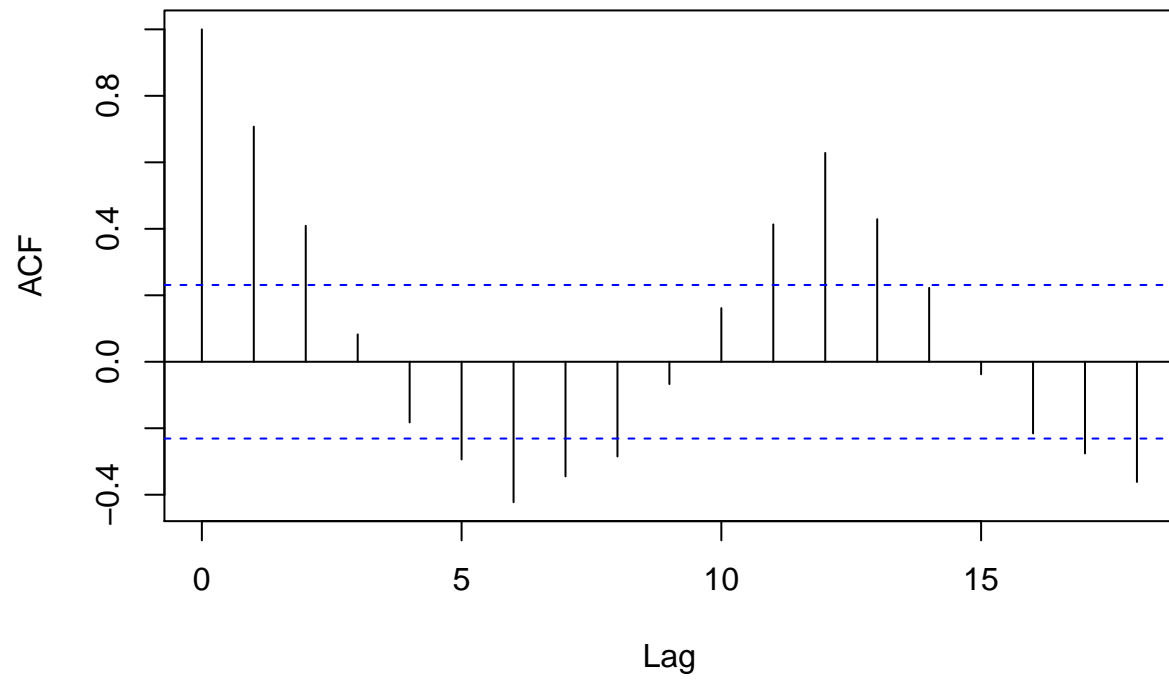

title: "PSTAT 174 HW4" author: "Kendall Brown" date: "Winter 2018" output: pdf_document —

```
acc.death=read.table("C:/Users/kebro/Desktop/Pstat 174/deaths .txt",header =F)
acc.death.ts=ts(acc.death)
plot.ts(acc.death.ts)
```



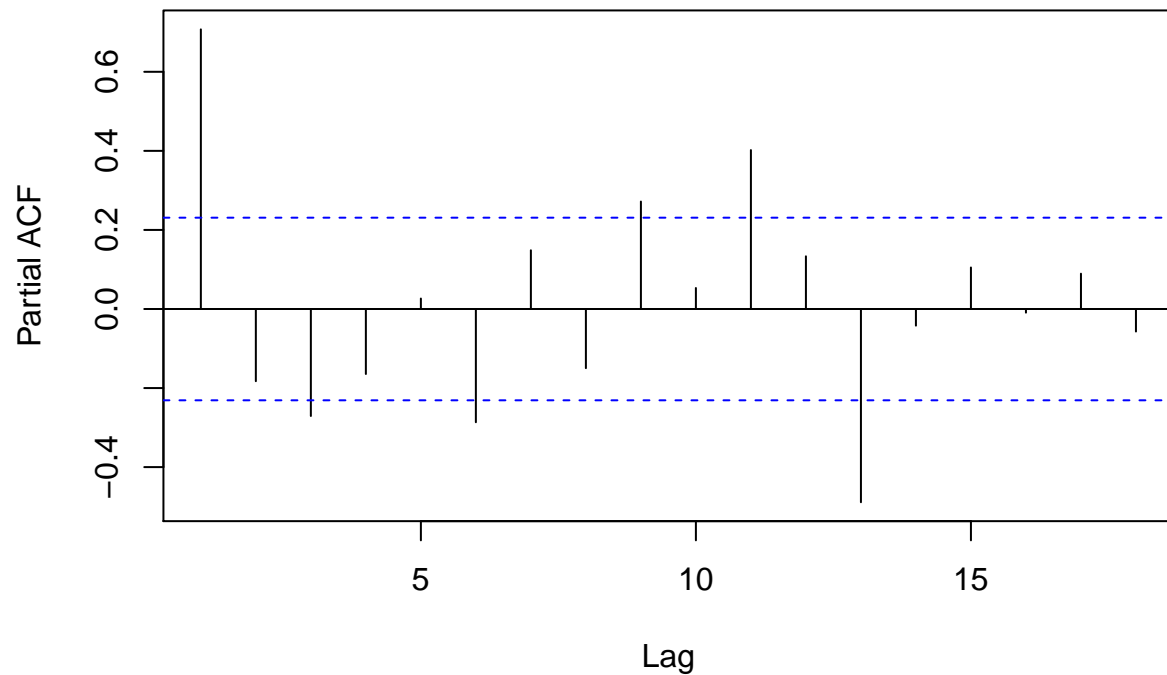
```
acf(acc.death.ts)
```

V1



```
pacf(acc.death.ts)
```

Series acc.death.ts



```
mean(acc.death.ts)
```

```
## [1] 8787.736
```

```
var(acc.death.ts)
```

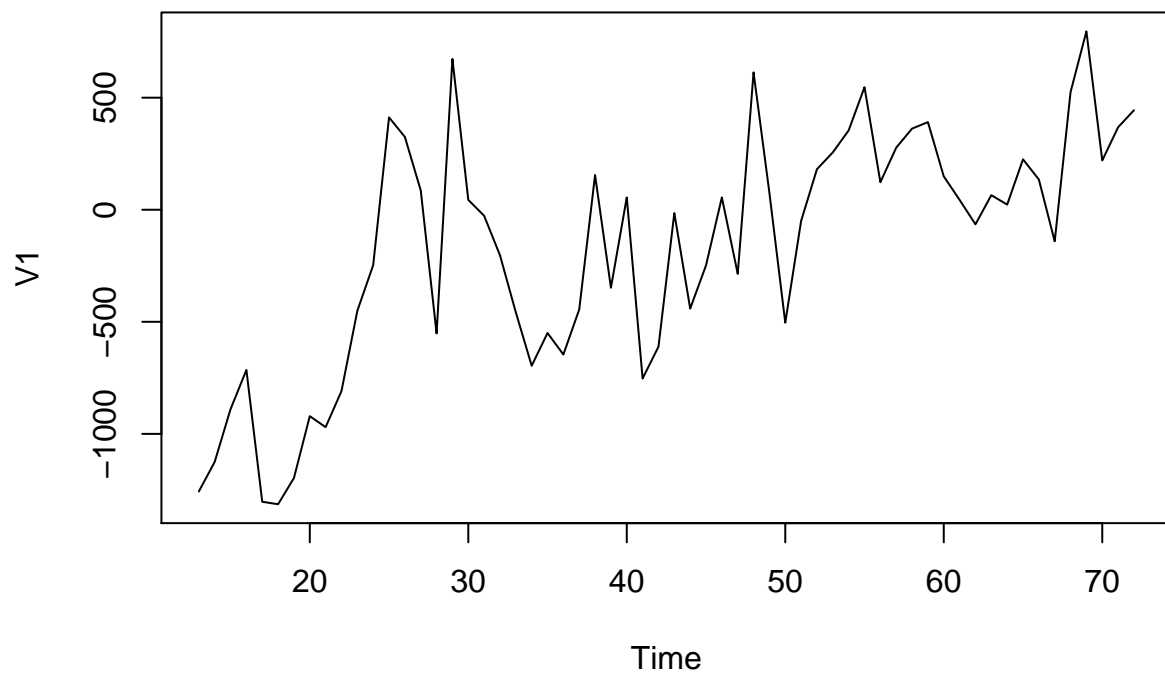
```
##          V1
```

```
## V1 918411.7
```

From the time series plot we see a constant mean with seasonal variance. From the ACF we observe oscillation which implies an auto-regressive model. From the PACF we observe spikes at lags 3,6,9, 11, and 13.

```
acc.death.diff=diff(acc.death.ts,12)
```

```
plot.ts(acc.death.diff)
```



```
mean(acc.death.diff)
```

```
## [1] -171
```

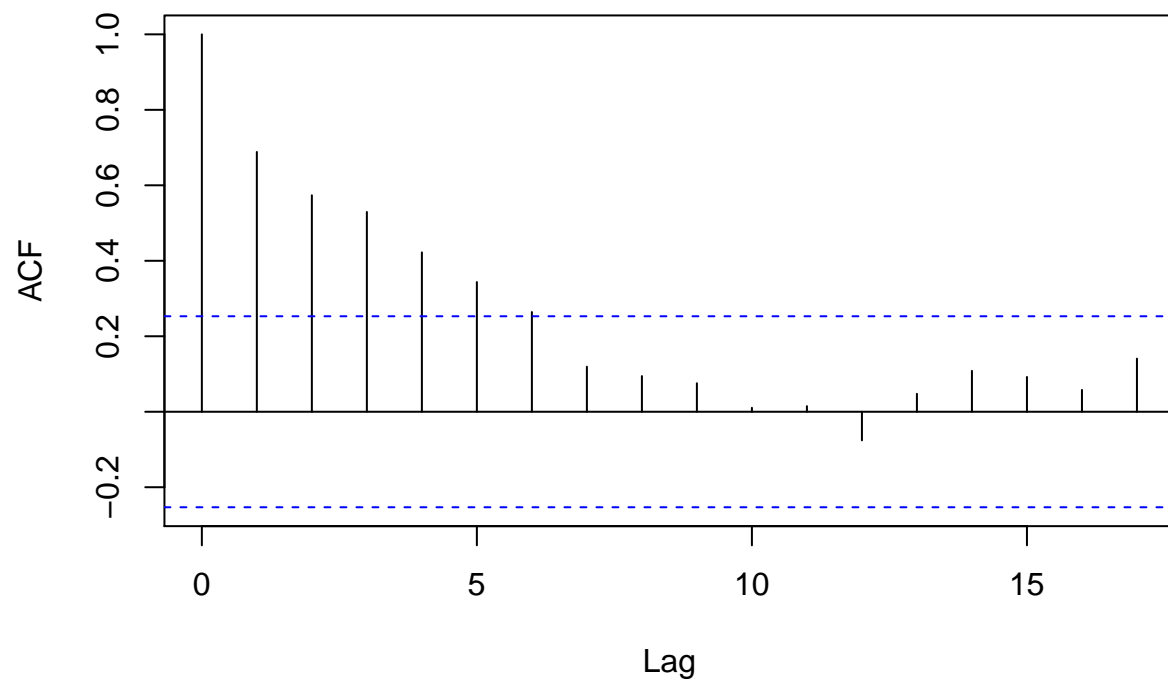
```
var(acc.death.diff)
```

```
##          V1
```

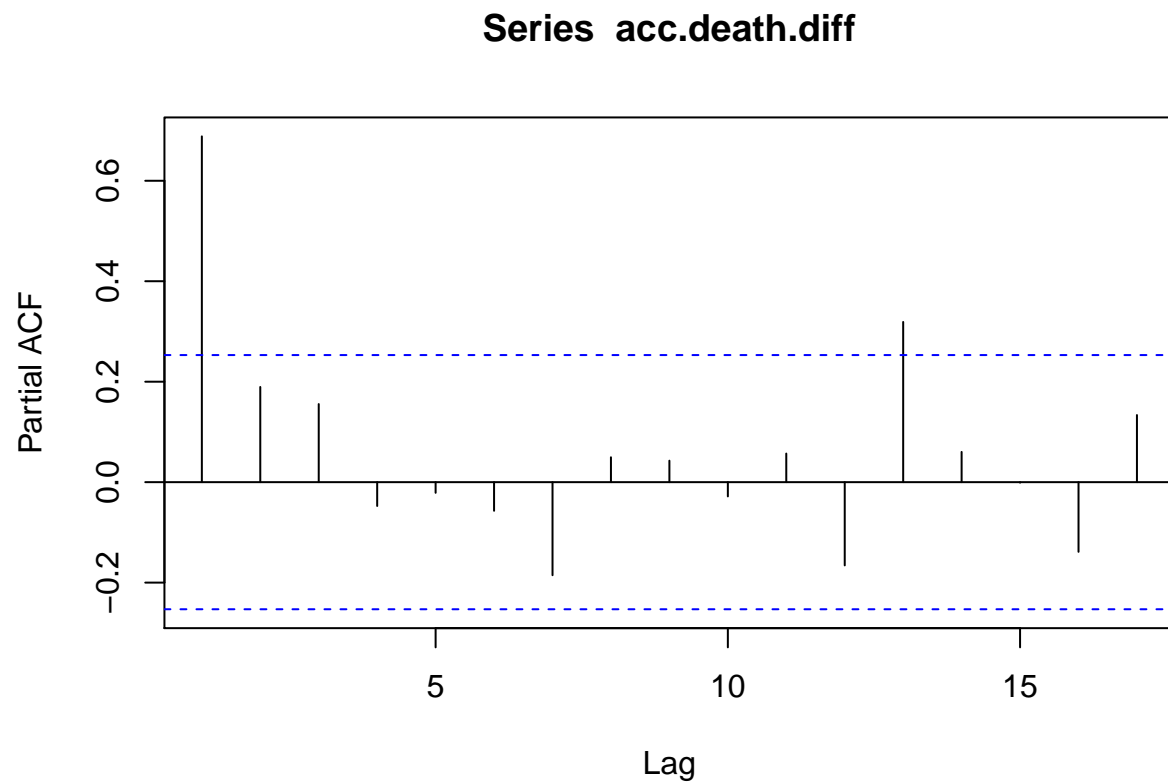
```
## V1 288714.5
```

```
acf(acc.death.diff)
```

V1



```
pacf(acc.death.diff)
```



With mean -171 and variance 288714 we see the detrended and non-seasonal transform of the data. From the ACF we observe oscillation with no decay implying an auto-regressive model. From the PACF we observe a single spike at lag 2. Differencing to remove seasonality was a good idea as it decreased observed variance by a more than significant amount.