AFTS - Ch2 - Ex5

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Consider the daily simple returns of IBM stock from 1962 to 2002 in the file d-ibmvwew6202.txt. Compute the first 100 lags of the ACF of the absolute daily simple returns of IBM stock. Is there evidence of long-range dependence? Why

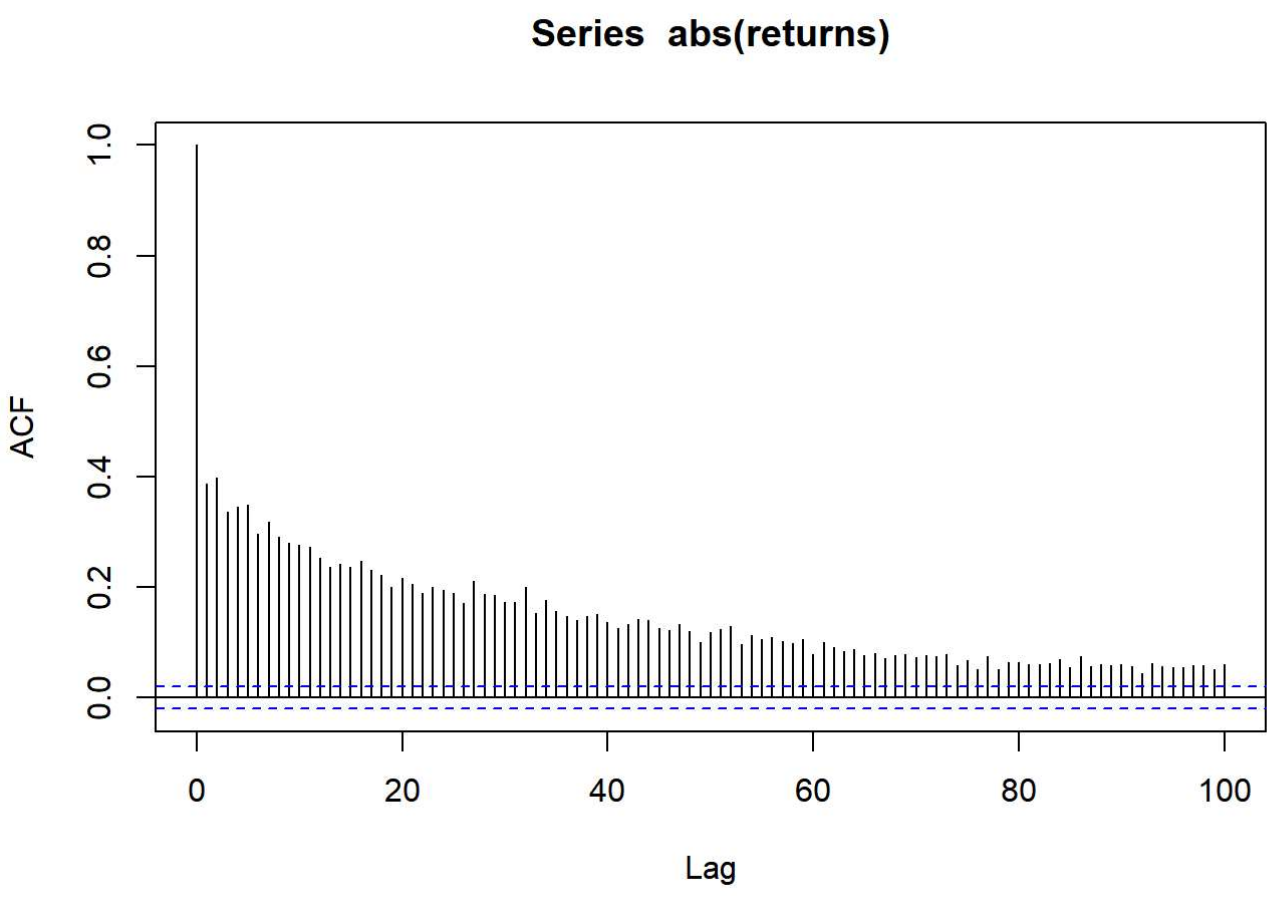
Upload data

```
data <- read.table("ibm.txt", header = TRUE)
```

```
returns <- data[, 4]
```

Calculate the ACF of the absolute returns up to lag 100

```
acf(abs(returns), lag.max = 100)
```



From this plot, we can see that there is significant autocorrelation at the first few lags, but it quickly drops off to zero. There is no evidence of long-range dependence, which would be indicated by a slow decay of the ACF. Instead, the data appear to be well-modeled as a stationary time series with short-term autocorrelation.