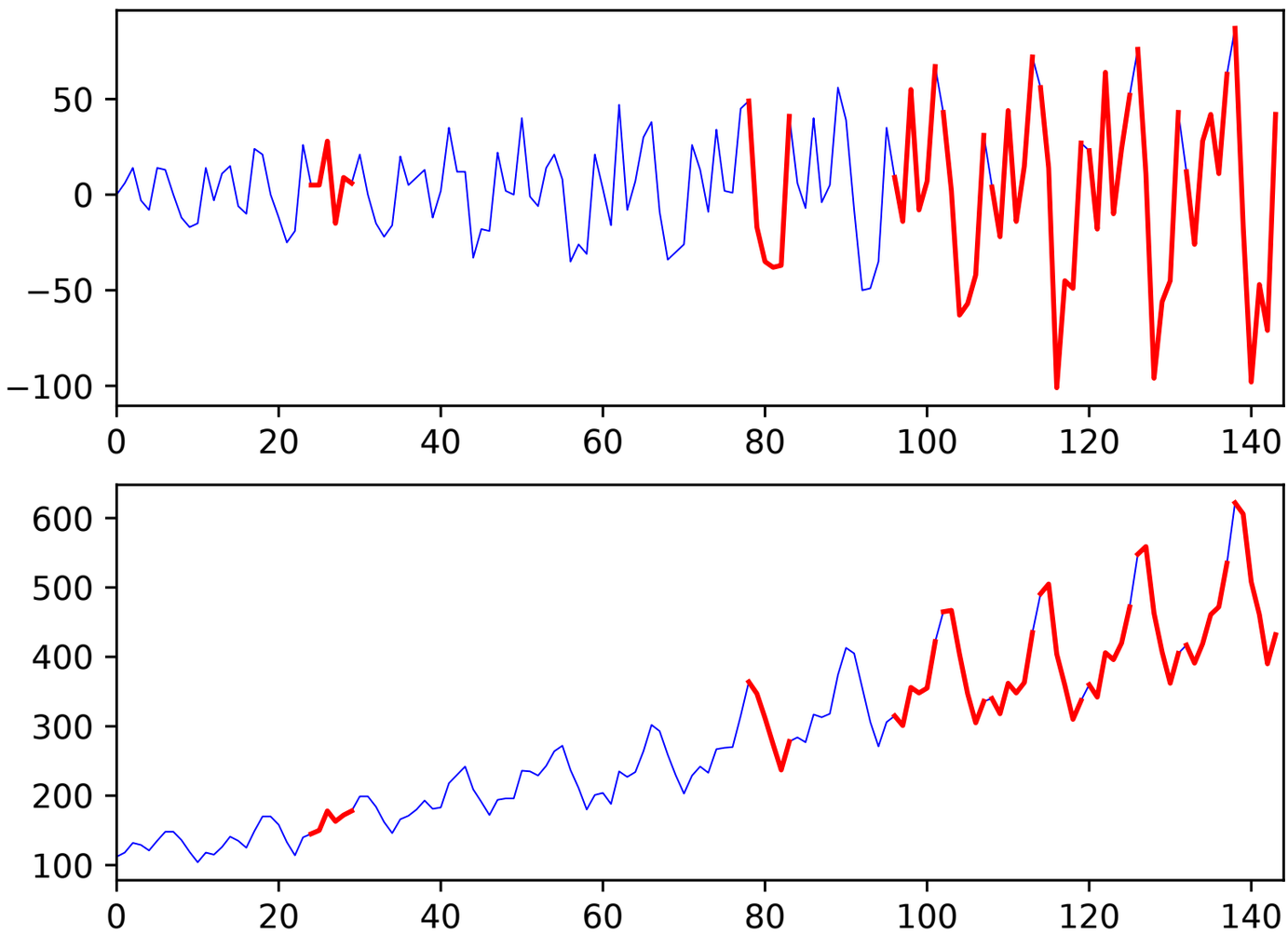
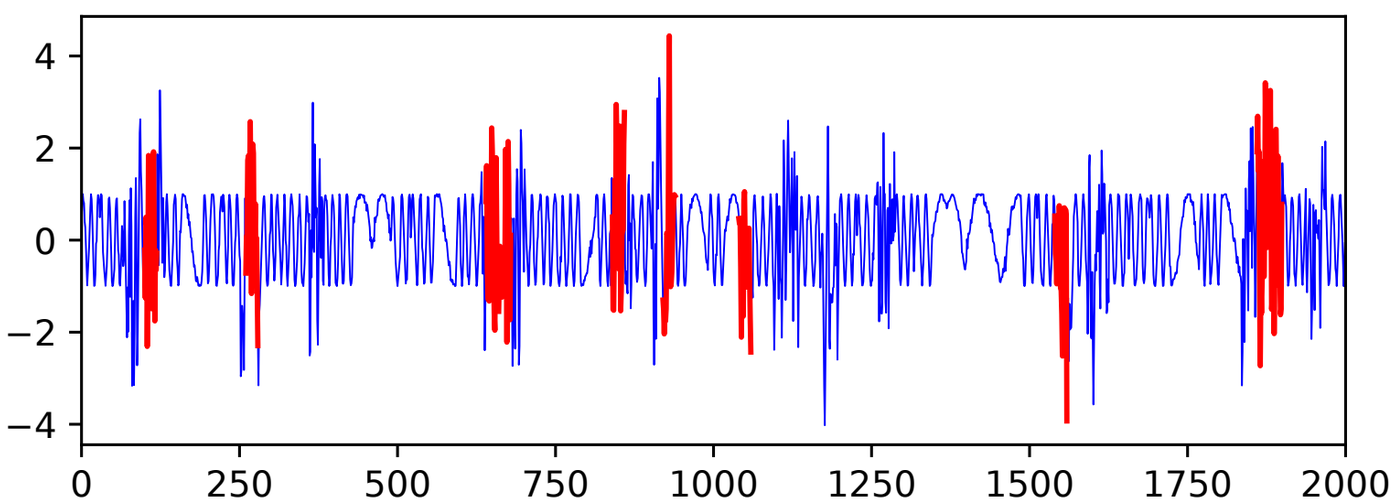


Airline dataset: Shingle-based time-series outlier detection. The window size was set to 6 and the anomaly detector employed was *Isolation Forest*. Since a clear trend is present, we first de-trend the series by differencing with lag 1. The **top row** shows the outlier windows detected in the de-trended series. The **bottom row** shows the corresponding outliers in the original series. In both plots, the outlier windows are shown in red. **Note:** There is no separate train or test set in this shingle-based approach.



Synthetic dataset: Shingle-based time-series outlier detection. The window size was set to 20 and the anomaly detector employed was an *autoencoder*. Since there is no trend in the original data, we did not apply and de-trending operation and the outlier windows are shown in the original timeseries data. The outlier windows are shown in red. **Note:** There is no separate train or test set in this shingle-based approach.