Exercise Sheet 6
Intelligent Systems

Segmentation

This exercise sheet will be discussed on January 13, 2021

Exercise 1 - Top down segmentation

Given a time series in Figure 1, apply a top down segmentation with a maximum approximation error of 1 by using the error function:

$$\sum_{i=1}^{n} |x_{t_i} - \tilde{x}(t_i)|,$$

where $S = \{t_i\}_{i=1}^{n}$ is a segment of length n, x_t are the measurements at time t, and For the approximation function $\tilde{x}$ use:

A. A constant function.

B. A polynom of degree 1.

Exercise 2 - Bottom up segmentation

Analogously as in Excercise 1, apply a bottom up segmentation with the same parametrisation and use as approximation function:

A. A constant function.

B. A polynom of degree 1.

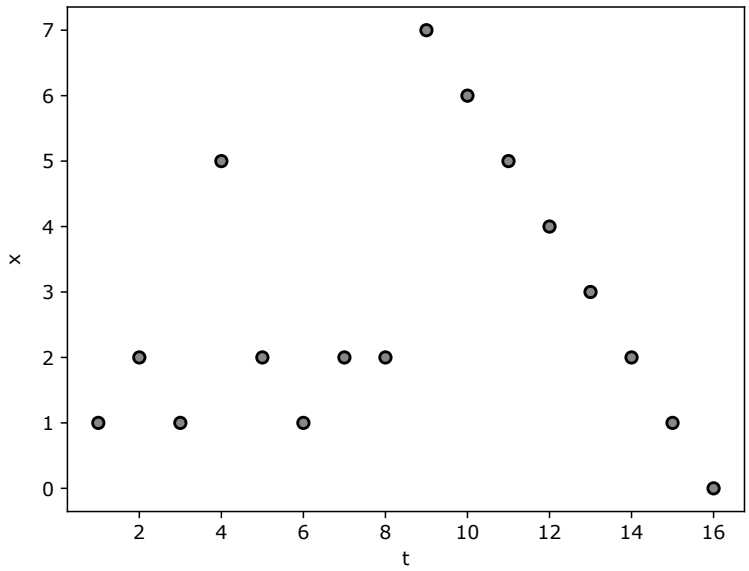

Abbildung 1: Some timeseries