**Homework #1**

Consider the following data with a seasonality of 2.

|  |  |
| --- | --- |
| t | Sales |
| 1 | 23 |
| 2 | 56 |
| 3 | 27 |
| 4 | 57 |
| 5 | 28 |
| 6 | 62 |
| 7 | 30 |

Find the forecast for periods 8 and 9 by:

1. Multiple linear regression with dummy variables.

2. Finding the adjusted data by time-series analysis, performing an exponential smoothing with trend using α=0.4 and β=0.2 on the adjusted data, and converting the adjusted forecast to a real forecast.

3. Shortly discuss the differences between the forecasts.

Show all your work.