Practical 4 - Linear Regression

(one analytical example on Linear Regression)

---

①

Given: ·) data $\mathcal{X} = \left\{ \begin{pmatrix} -1 \\ 2 \end{pmatrix}, \begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 1 \\ 1 \end{pmatrix} \right\}$ - features
- targets

Task: ·) Fit polynomials of degree $D = 0, 1, 2$ to the data and compare the corresponding least-squares errors

$$E(\underset{\sim}{w}^{(D)}) = \frac{1}{2} \sum_{n=1}^{3} \left(y_D(x_n; \underset{\sim}{w}) - t_n \right)^2 .$$