$$X^T y = \begin{bmatrix} 1\,1 & \cdots & 1 \\ 176\,177 & \cdots & 184 \end{bmatrix} \begin{bmatrix} 441 \\ \vdots \\ 541 \end{bmatrix} = \begin{bmatrix} 4952 \\ 891\,393 \end{bmatrix}$$

$$X^T y = \begin{bmatrix} y_\bullet \\ (xy)_\bullet \end{bmatrix} \quad \text{with} \quad y_\bullet = \sum_{i=1}^{N=10} y_i$$

$$(xy)_\bullet = \sum_{i=1}^{N=10} x_i \cdot y_i$$

Fix Linear Effect Models

- Generalisation of Regression Models
- Allow to include "Factors" into the model
- Factors are discrete valued variable used as predictors (in contrast to real-valued predictors in regression)

floating point numbers

- Reg: