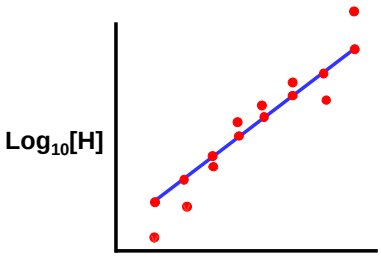
SCALING & REGRESSION



b = ?

LINEAR REGRESSION

also is known as
- 'Ordinary Least-Squares Regression'
- 'Model 1 Regression'

'regression' was coined by Galton (1885), who noticed that offspring heights reverted toward the parental means

minimises squared vertical deviations

ASSUMPTIONS

that:

- X is measured without error
- the model fits accurately the data
- deviations are unrelated to X

r^2

is the coefficient of determination

$\in$ [0, 1]

is the proportionate variation in Y that is determined by variation in X

is equivalent numerically to the correlation coefficient squared

REGRESSION

will be utilised to obtain values for a, b, r^2,

which can be used to test hypotheses and compare data:

if bs are similar and r^2 is close to 1.0, then one compares as

if bs are different, then one compare as, bs, and X ranges