

Lecture 14

Non-linear Plots and Residual Analysis

- Review linear regression
- Linest function
- Non linear plots

Linest function

Syntax `LINEST(Y values, X values, Constant, Statistics)` (Read chapter 7)

Non linear plots

Let us say we want to plot the following equation involving the **bacterial growth** as a function of **time**.

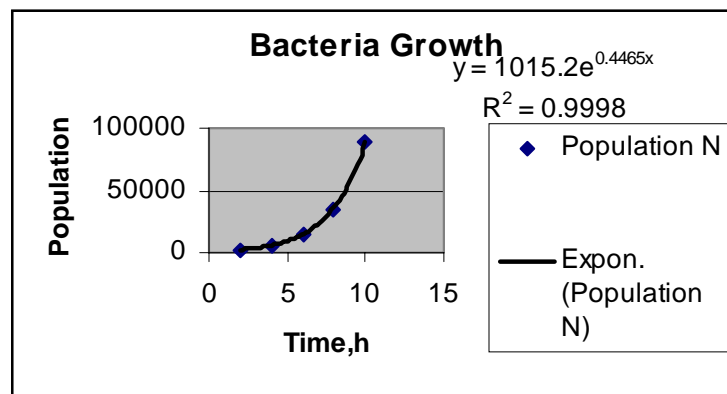
$$N = C \exp(Bt)$$

where $N = \text{population}$

$C = \text{Initial population}$

$B = \text{birth rate at time } t$

Time t	2	4	6	8	10
Population N	2500	6000	15000	35000	90000
ln(N)	7.824046	8.699515	9.615805	10.4631	11.40756



Also show residual analysis in class. (see material from new text)