

Lecture 1 (Ch.1)

Read Ch.1 on your own!

We will come across the details of Ch.1, later.

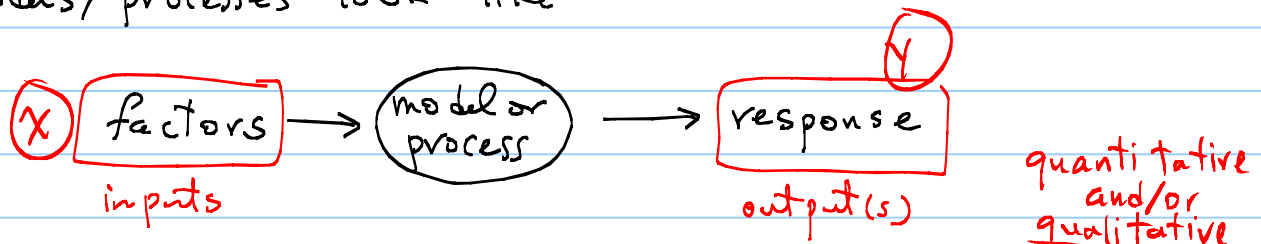
For now, the lesson of Ch.1 is that

- Most problems involve some unknown underlying process. Sometimes a theory exists which tells us something about the model/process, e.g. $F = G M m / r^2$. These are called physics-based or mechanistic models. Data are used to confirm the model, and estimate its params.

At other times, data are all we have, and no theory.

- In most statistics problems, we are interested in developing statistical (empirical) models of the process generating the data.

- Many models/processes look like



In almost everything we do here, input factors are discrete output/response is continuous.

- Factors can be (Read text) of interest versus not, controllable vs. uncontrollable, known vs. unknown

Data on input/output come from
a) Observational Studies / surveys
b) Experimental Studies / Controlled Experiments ← 4.21.

Factors which vary, but we are not interested in = nuisance factors

hw/lab1-1

See lab0-hw on the course website. I want to make sure that each of you types all the code (not comments) into R, and sees the "output".

So, type it all in, and turn in a printout of the entire R session. Do not turn in figures.

When accessing online data that this code refers to, do it this way:

course website / file-name

e.g. " / hist.dat.txt

Don't forget to read Ch. 1

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