GEOLOGY 590

Jan 18, 2017 FUNCTIONS

* IDE – data files organization
* projects (R-studio, establish a workin directory), pay attention and detect a specific directory (there should be no space)
  + working directory [get wd ()] , set wd ()
  + data, R, plots, misc
* Windows explorer (folders as text) e.g. C.//marifeanunciado/mmm/
* Objects (has a value) and functions (performs tasks) e.g. a ()
* Function (parameter 1, parameter 2) parameters are what they are doing to…, functions have side effects (should be minimal unless needed), value vs. side effect
  + a = 2, assigning a value and not a mathematical equivalent
* dataframe (x=a, y=b) , keeps tracks of things
  + a < c (1,2,3)
  + b < c (4,5,6)
* vectors – columns of numbers
* dataframe
* new environment [ x 1,2,3 y 4,5,6] global environment [ x 1,2,3 y 4,5,6]

January 30, 2017

Intro to data visualization

3 ways to plot in R:

1. Base graphics - syntax
2. Lattice – R formula syntax, use of commands
3. ggplot2 – grammar of graphics, describe a plot, R builds the plot, best way to visualize your data the way you want it to, easy iterations

Plot:

1. dataset: mtcars
2. what kind of plot: scatter
3. axes/ data mapping (1:1 function):
   1. x <- wt
   2. y <- mpg
   3. **facets** of data mapped into a dataset of value
4. scale
5. statistical transformation: mean, std deviation (identity transformation)
   1. geom:geom\_xxx()
   2. stat:stat\_xxx()
   3. aes()

ggplot2 cant: multiple axis plots, 3-d plots, bar graphs, transformed axes

**p <- ggplot (mtcars (dataset-should be a df), aes(x-disp, y=mpg, colour=cyl)) + geom\_point, line, boxplot(), facet\_wrap(~cyl), geom\_point\_size**

**p <- ggplot**

**p\_box + geom\_point(position=position\_jitter(width=0.2))**

**P-smoothed <- p\_faceted + geom\_smooth(method=”lm”)**

**print(p)** – “p” - description in the graph stored in the list

theme(axis.line = element\_line(color = “ red”, size = 3), text=element\_text(size = 20 ))

Tuftde – gray background and white gridlines are good way of presenting your data

Artist’s palette – making a canvass,generate something out of it

Ggplot – modify from bigger objects

**?theme**

**Ggplot should be:**

1. **Ggplot call**
2. **Geom/s**
3. **Scales**
4. **Labels and other etc**
5. **theme**

**February 1, 2017**

#badplot

Account at github, install git, not git GUI

Ggplot (d, aes(x=x, y=y)) + geom\_() + scale \_\_\_\_ () +facet\_grid (~ )