

R implementation

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1 Loaded functions:

```
#source("/media/Data/Dropbox/humanR/01funcs.R")
rm(list=ls())
#setwd("/media/Data/Dropbox/humanR/PD/")
#setwd("~/Dropbox/humanR/PD/")
##load("PD.Rdata", .GlobalEnv)
#lsos(pat="")
```

2 Load packages.

```
pkgs <- c('xlsx','caret','leaps','glmnet','lattice',
          'latticeExtra','dplyr','tidyr')
lapply(pkgs, require, character.only = TRUE)
```

3 1 Differentially expressed genes

```
read.table("./data/summary.raw.all.txt") %>%
  ggplot(aes(
    x = V1,
    y = V8,
    fill = V6)) +
  theme_bw() +
  geom_bar(stat = "identity",
    position = "dodge") +
  facet_wrap(~ V4 + V5 + V7,
    ncol = 4,
    scales = "free") +
  scale_fill_brewer(type = "qual", palette = 6,
    name = "P-value") +
  labs(x = "R packages for gene expression differential analysis",
    y = "Number of differentially expressed genes") +
  theme(legend.position = "top")
```



```
sessionInfo()
```

```
R version 3.2.1 (2015-06-18)
```

```
Platform: x86_64-unknown-linux-gnu (64-bit)
```

```
Running under: elementary OS Luna
```

```
locale:
```

```
[1] LC_CTYPE=en_US.UTF-8      LC_NUMERIC=C
[3] LC_TIME=en_US.UTF-8       LC_COLLATE=en_US.UTF-8
[5] LC_MONETARY=en_US.UTF-8   LC_MESSAGES=en_US.UTF-8
[7] LC_PAPER=en_US.UTF-8      LC_NAME=en_US.UTF-8
[9] LC_ADDRESS=en_US.UTF-8    LC_TELEPHONE=en_US.UTF-8
[11] LC_MEASUREMENT=en_US.UTF-8 LC_IDENTIFICATION=en_US.UTF-8
```

```
attached base packages:
```

```
[1] stats      graphics  grDevices  utils      datasets  methods
[7] base
```

```
other attached packages:
```

```
[1] tidyr_0.2.0      dplyr_0.4.2      latticeExtra_0.6-26
[4] RColorBrewer_1.1-2 glmnet_2.0-2      foreach_1.4.2
[7] Matrix_1.2-1     leaps_2.9         caret_6.0-47
[10] ggplot2_1.0.1    lattice_0.20-31  xlsx_0.5.7
[13] xlsxjars_0.6.1   rJava_0.9-6      knitr_1.10.5
[16] RevoUtilsMath_3.2.1
```

```
loaded via a namespace (and not attached):
```

```
[1] Rcpp_0.11.6      compiler_3.2.1   formatR_1.2
[4] nloptr_1.0.4     plyr_1.8.3       highr_0.5
[7] iterators_1.0.7  tools_3.2.1      digest_0.6.8
[10] lme4_1.1-8       evaluate_0.7      nlme_3.1-121
[13] gtable_0.1.2     mgcv_1.8-6       DBI_0.3.1
[16] parallel_3.2.1   brglm_0.5-9      SparseM_1.6
[19] proto_0.3-10     BradleyTerry2_1.0-6 stringr_1.0.0
[22] gtools_3.5.0     grid_3.2.1       nnet_7.3-10
[25] R6_2.0.1         minqa_1.2.4      reshape2_1.4.1
[28] car_2.0-25       magrittr_1.5     scales_0.2.5
[31] codetools_0.2-11 MASS_7.3-41      splines_3.2.1
[34] assertthat_0.1   pbkrtest_0.4-2   colorspace_1.2-6
[37] labeling_0.3     quantreg_5.11    stringi_0.5-5
[40] lazyeval_0.1.10  munsell_0.4.2
```