01_explore-libraries_spartan.R

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Which libraries does R search for packages?

```
library(tidyverse)
```

```
## -- Attaching packages ----------------------------------------------- tidyverse 1.2.1 --
```

```
## v ggplot2 2.2.1     v purrr   0.2.4
## v tibble  1.4.2     v dplyr   0.7.4
## v tidyr   0.7.2     v stringr 1.2.0
## v readr   1.1.1     v forcats 0.2.0
```

```
## -- Conflicts -------------------------------------------------- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
mylibs <- .libPaths()
```

Installed packages

```
## use installed.packages() to get all installed packages
pacs <- as.data.frame(installed.packages())

     #  or  #

pacs <- installed.packages() %>%
  as.tibble()

## how many packages?
npacs <- nrow(pacs)
npacs
```

```
## [1] 239
```

Exploring the packages

```
## count some things! inspiration
##   * tabulate by LibPath, Priority, or both
with(pacs, table(LibPath))
```

```
## LibPath
## C:/Program Files/R/R-3.4.3/library                     C:/R/Library
##                                 30                              209
```

```
table(pacs$LibPath)
```

```
##
## C:/Program Files/R/R-3.4.3/library                     C:/R/Library
##                                 30                              209
```

```
table(pacs$Priority, pacs$LibPath)
```

```
##
##              C:/Program Files/R/R-3.4.3/library C:/R/Library
```

```
##   base                                        14            0
##   recommended                                 15            0
```

```
table(pacs$LibPath, pacs$Priority)
```

```
##
##                                     base recommended
##   C:/Program Files/R/R-3.4.3/library   14          15
##   C:/R/Library                          0           0
```

```
table(pacs$Priority)
```

```
##
##        base recommended
##          14          15
```

```
##   * what proportion need compilation?
table(pacs$NeedsCompilation)[2] / (table(pacs$NeedsCompilation)[2] + table(pacs$NeedsCompilation)[1])
```

```
##       yes
## 0.4759825
```

```
##   * how break down re: version of R they were built on
table(pacs$Version)
```

```
##
##      0.0.2        0.1      0.1-1      0.1-2      0.1-3    0.1-5.1
##          1          3          1          1          1          1
##      0.1.0 0.1.0.9000      0.1.1      0.1.2      0.1.6      0.1.7
##          1          1          1          1          3          1
##     0.10-1    0.10-42     0.10.1    0.12.15     0.15.3     0.19-1
##          1          1          1          1          1          1
##     0.19.0        0.2     0.2-15      0.2.0      0.2.1      0.2.2
##          1          1          1          4          3          1
##      0.2.3      0.2.4    0.20-35     0.20.6     0.21.0       0.22
##          1          1          1          1          1          1
##     0.23-3        0.3      0.3-1      0.3-2      0.3-6      0.3.0
##          1          1          1          1          1          2
##      0.3.2  0.3.3.3.1      0.3.6        0.4      0.4-1     0.4-12
##          1          1          1          1          1          1
##      0.4-7      0.4.0      0.4.1      0.4.2      0.4.3    0.4.8-1
##          2          1          3          1          2          1
##        0.5   0.5-13.1      0.5.0        0.6      0.6-2     0.6-28
##          2          1          1          1          1          1
##      0.6-6     0.6.14        0.7      0.7-0      0.7.2      0.7.4
##          1          1          2          1          1          1
##        0.8      0.8-4     0.8-69      0.8.5     0.9-35      0.9-9
##          1          2          1          1          1          1
##      0.9.0      0.9.2      0.9.9     0.99.9        1.0      1.0-0
##          1          1          1          1          2          1
##      1.0-2      1.0-3      1.0-4      1.0-5      1.0-6      1.0-7
##          1          1          1          1          2          2
##      1.0-8      1.0.0      1.0.1     1.0.11      1.0.4      1.0.5
##          1          8          2          1          1          1
##      1.0.9      1.1-1     1.1-16      1.1-2      1.1.0      1.1.1
##          1          1          1          1          5          4
##    1.1.1.4      1.1.2      1.1.3      1.1.6   1.10.4-3     1.11.2
```

```
##          1          2          1          1          1          1
##     1.13.4     1.17.1       1.19      1.2-1     1.2-11     1.2-12
##          1          1          1          1          1          1
##      1.2-2      1.2.0      1.2.1      1.2.4     1.21.0       1.22
##          1          6          1          2          1          1
##      1.3-0      1.3-2     1.3-20      1.3.0      1.3.1      1.3.4
##          1          2          1          1          1          1
##      1.3.5      1.4-4      1.4-5      1.4-8      1.4.1      1.4.2
##          1          1          1          1          2          1
##      1.4.3      1.4.4        1.5      1.5-5      1.5-8      1.6-8
##          1          1          3          2          1          1
##   1.65.0-1      1.7.1      1.7.8       1.77        1.8      1.8-1
##          1          2          1          1          1          1
##      1.8-2     1.8-22      1.8.4      1.8.5      1.9-3        2.0
##          1          1          1          1          1          1
##      2.0-0      2.0-7      2.0.0      2.0.1      2.0.3      2.0.6
##          1          1          1          2          1          1
##      2.1-6      2.1.1     2.1.16      2.2.1      2.2.2    2.23-15
##          1          1          1          1          1          1
##        2.3      2.3.2      2.4-0     2.41-3        2.5      2.6.0
##          1          1          1          1          1          1
##      2.6.1        3.0      3.0-0        3.1    3.1-131      3.1-9
##          1          1          1          1          1          1
##      3.2.0       3.33      3.4.3      3.6.1   3.98-1.9      4.0-0
##          1          1         15          1          1          1
##      4.1-1     4.1-11       5.34      6.0-0     7.3-11     7.3-12
##          1          1          1          1          1          1
##     7.3-14     7.3-47
##          1          1
```

Reflections

```
## reflect on ^^ and make a few notes to yourself; inspiration
##   * does the number of base + recommended packages make sense to you?
##   * how does the result of .libPaths() relate to the result of .Library?
.Library
```

```
## [1] "C:/PROGRA~1/R/R-34~1.3/library"
```

```
.libPaths()
```

```
## [1] "C:/R/Library"
## [2] "C:/Program Files/R/R-3.4.3/library"
```

```
chunk1 <- .Library

library(fs)
chunk2 <- path_real(.Library)

chunk1 == chunk2
```

```
## [1] FALSE
```

Going further

```
## if you have time to do more ...

## is every package in .Library either base or recommended?
```

```
    # No, there is one package that is neither:
pacs %>%
  filter(LibPath == "C:/Program Files/R/R-3.4.3/library") %>%
  select(Package, Priority)
```

```
## # A tibble: 30 x 2
##    Package   Priority
##    <chr>     <chr>
##  1 base      base
##  2 boot      recommended
##  3 class     recommended
##  4 cluster   recommended
##  5 codetools recommended
##  6 compiler  base
##  7 datasets  base
##  8 foreign   recommended
##  9 graphics  base
## 10 grDevices base
## # ... with 20 more rows
```

```
## study package naming style (all lower case, contains '.', etc
## use `fields` argument to installed.packages() to get more info and use it!
```