607 Assignement 3

Lu Beyer

```
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.4.4     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.1
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
data <- read.csv("C:/Users/Lu/Documents/School/DATA607/Assignment 3/majors-list.csv")
```

```
majors <- data %>%
  filter(str_detect(Major, "DATA|STATISTICS")) %>%
  select(Major)
```

```
grep(pattern = "data|statistics", majors, value = TRUE, ignore.case = TRUE)
```

```
##
## "c(\"MANAGEMENT INFORMATION SYSTEMS AND STATISTICS\", \"COMPUTER PROGRAMMING AND DATA PROCESSING\", "
```

3.1 (.)\1\1 Looking for string where the first character is repeated three times in a row.

3.2 "(.)(.)\2\1" Looking for a string that has any two characters, then "\2\1" immediately following. The double slashes no longer reference character positions, but now reference the literal characters of "\2\1".

"ab\2\1" and "ba\2\1" would match this search.

3.3 (..)\1

It will be looking for strings where two characters will be repeated immediately after the first pair. ex: "bobo" or "hehe" or "bbbb"

3.4 "(.).\1.\1" Searching for any two characters, followed by the literal "\1", followed by any character, and an additional "\1"

ex: "ab\1c\1" or "t3\1x\1"

3.5 "(.)(.)(.).*\3\2\1"

String with any three characters, followed by any amount of characters, and ending in "\3\2\1" ex: "abcd\3\2\1", "abcdddd\3\2\1", "abcdslkdf\3\2\1"

4.1 Start and end with the same character. ^(.).*\1$

4.2 Contain a repeated pair of letters (e.g. “church” contains “ch” repeated twice.)

(..).|*1.*\1

4.3 Contain one letter repeated in at least three places (e.g. “eleven” contains three “e”s.)

(.).*\1{3}