*Authors:* Lasse Kidmose, Magnus Marlo, Frederik Løkke og Matti Kjeldsen

# DAM Assignment - week 8

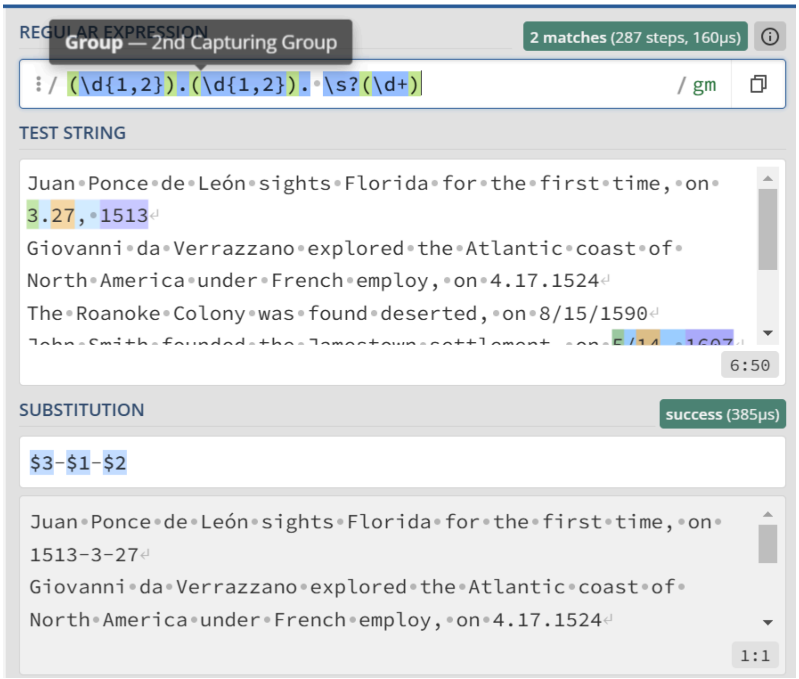
Week 8 assignment is, inevitably, about Regular Expressions and OpenRefine

Upload a text file or a PDF with your answers/solutions to the problems below. Beware of making the submission legible and understandable to another reader; for example, consider using the "Save regex" functionality in regex101.com, which allows you to create a link out of your solution and share the link for easy use by your colleagues. Remember that you can elaborate solutions in groups, but need to submit **individually.**

**1. What regular expressions do you use to extract all the dates in this blurb: http://bit.ly/regexercise2 and to put them into the following format YYYY-MM-DD ?**

**Regular expression:** (\d{1,2}).(\d{1,2}). \s?(\d+)

**Substitution**: $3-$1-$2



```
/ (\d{1,2}).(\d{1,2}). \s?(\d+) / gm
```

```
Juan Ponce de León sights Florida for the first time, on 
3.27, 1513
Giovanni da Verrazzano explored the Atlantic coast of 
North America under French employ, on 4.17.1524
The Roanoke Colony was found deserted, on 8/15/1590
John Smith founded the Jamestown settlement, on 5/14, 1607
```

```
$3-$1-$2
```

```
Juan Ponce de León sights Florida for the first time, on 
1513-3-27
Giovanni da Verrazzano explored the Atlantic coast of 
North America under French employ, on 4.17.1524
```

**2. Write a regular expression to convert the stopwordlist (list of most frequent Danish words) from Voyant in** http://bit.ly/regexercise3 **into a neat stopword list for R (which comprises "words" separated by commas, such as** http://bit.ly/regexercise4 **). Then**

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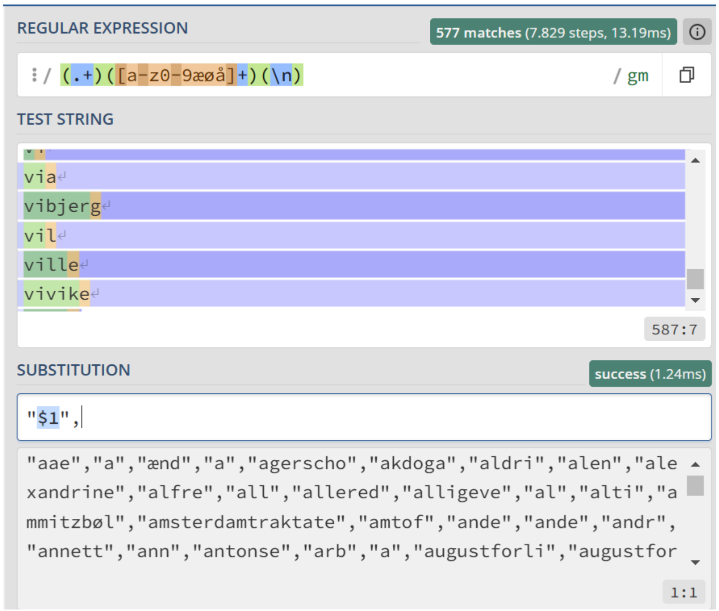
**take the stopwordlist from R http://bit.ly/regexexercise4 and convert it into a Voyant list (words on separate line without interpunction)**

## Voyant stopwordlist -> R stopwordlist

**Regular expression:** (.+)([a-z0-9æøå]+)(\n)

**Substitution:** "$1",



```
/ (.+)([a-z0-9æøå]+)(\n) / gm
```

```
via
vibjerg
vil
ville
vivike
```

```
"$1",
```

```
"aae","a","ænd","a","agerscho","akdoga","aldri","alen","ale
xandrine","alfre","all","allered","alligeve","al","alti","a
mmitzbøl","amsterdamtraktate","amtof","ande","ande","andr",
"annett","ann","antonse","arb","a","augustforli","augustfor
```

## R stopwordlist -> Voyant stopwordlist

**Regular expression:** "([^"]+)",?\s?

**Substitution:** $1\n

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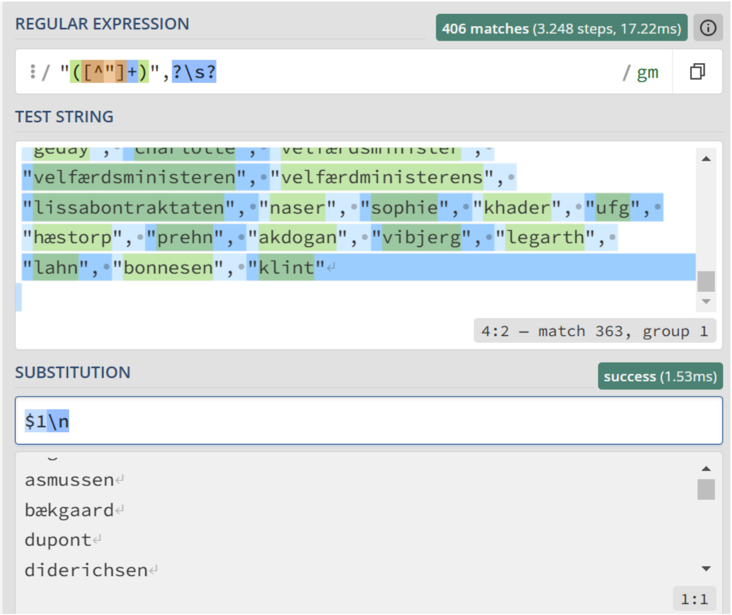

REGULAR EXPRESSION — 406 matches (3.248 steps, 17.22ms)

```
/ "([^"]+)",?\s? / gm
```

TEST STRING

```
"geday", "charlotte", "velfærdsminister", 
"velfærdsministeren", "velfærdministerens", 
"lissabontraktaten", "naser", "sophie", "khader", "ufg", 
"hæstorp", "prehn", "akdogan", "vibjerg", "legarth", 
"lahn", "bonnesen", "klint"
```

4:2 — match 363, group 1

SUBSTITUTION — success (1.53ms)

```
$1\n
```

```
asmussen
bækgaard
dupont
diderichsen
```

1:1

### 3. Does OpenRefine alter the raw data during sorting and filtering?

**Answer**: No, OpenRefine only cleans up the data aligned with our regular expressions, so that we can find the values that we are looking for. The raw data remains the same throughout the process.

### 4. Fix the interviews dataset in OpenRefine enough to answer this question: "Which two months are reported as the most water-deprived/dryest by the interviewed farmer households?"

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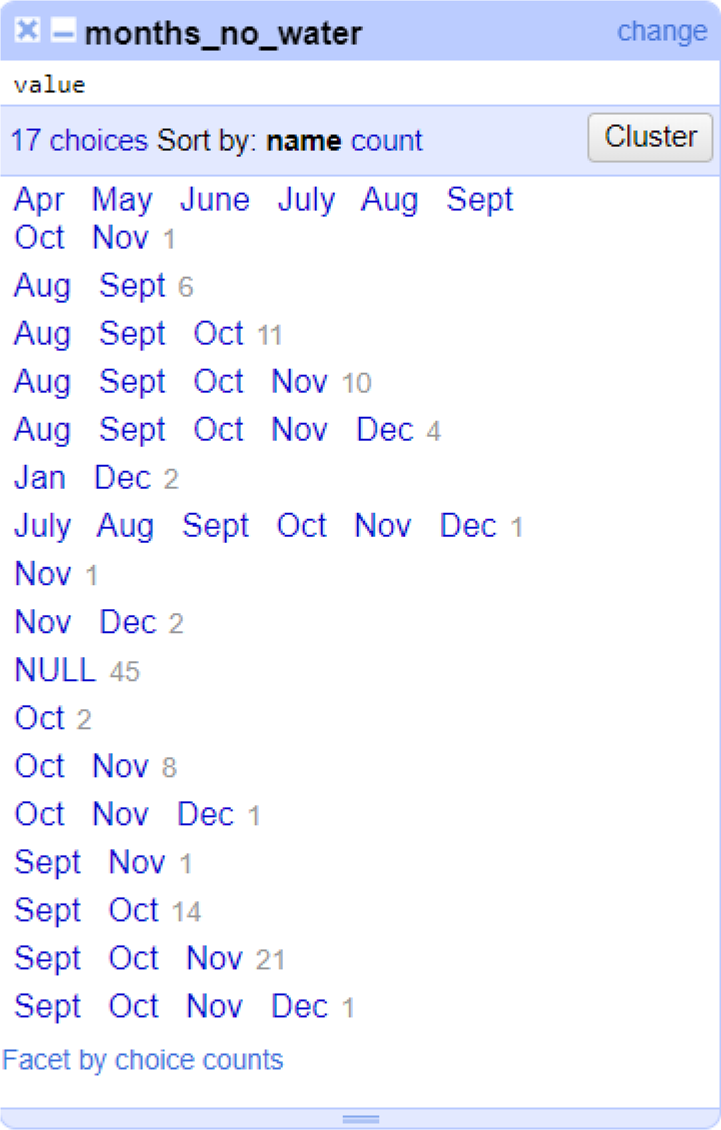


Apr May June July Aug Sept Oct Nov 1

Aug Sept 6

Aug Sept Oct 11

Aug Sept Oct Nov 10

Aug Sept Oct Nov Dec 4

Jan Dec 2

July Aug Sept Oct Nov Dec 1

Nov 1

Nov Dec 2

NULL 45

Oct 2

Oct Nov 8

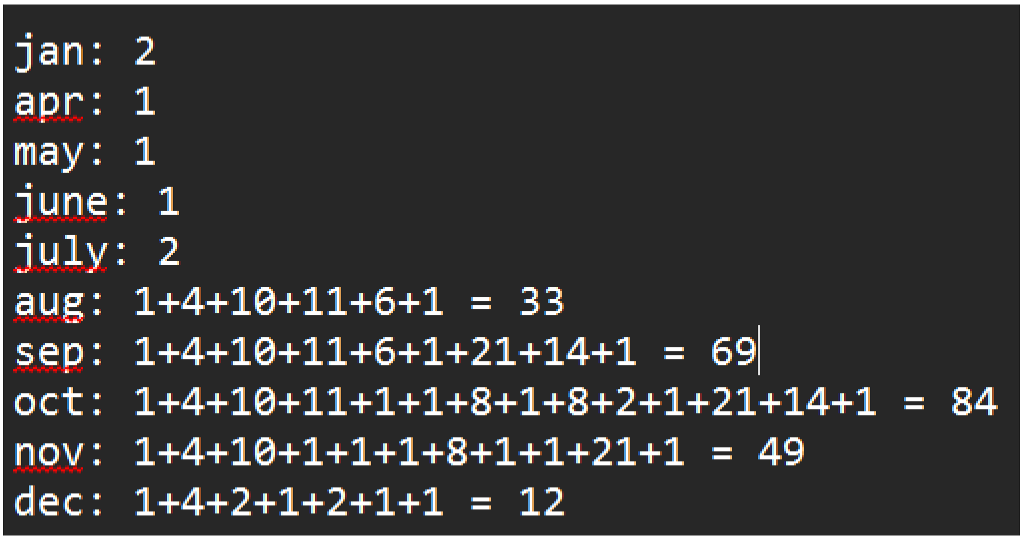
Oct Nov Dec 1

Sept Nov 1

Sept Oct 14

Sept Oct Nov 21

Sept Oct Nov Dec 1



```
jan:  2
apr:  1
may:  1
june:  1
july:  2
aug:  1+4+10+11+6+1  =  33
sep:  1+4+10+11+6+1+21+14+1  =  69
oct:  1+4+10+11+1+1+8+1+8+2+1+21+14+1  =  84
nov:  1+4+10+1+1+1+8+1+1+21+1  =  49
dec:  1+4+2+1+2+1+1  =  12
```

**From the data above we can constitute that October and September are the driest months**

*Authors:* Lasse Kidmose, Magnus Marlo, Frederik Løkke og Matti Kjeldsen

**5. Real-Data Challenge: What are the 10 most frequent occupations "erhverv" among unmarried men or women of 20-30 years in** 1801 Aarhus **census dataset? (hint: first select either men or women to shrink the dataset to a manageable size, then filter by age, and then use merging to cut the erhvervvariation ruthlessly.)**

10 most frequent occupations for **unmarried men of 20-30 years :**

| **Name of occupation** | **Frequencies** |
|---|---|
| **Tjenestekarl** | **1.591** |
| **Soldat** | **513** |
| **Væver** | **40** |
| **Skræder** | **24** |
| **Matros** | **20** |
| **Læredreng/elev** | **20** |
| **Lærer** | **20** |
| **Gårdmand/bonde** | **15** |
| **Skræddersvend** | **14** |
| **Snedker** | **11** |

10 most frequent occupations for **unmarried women of 20-30 years:**

| **Name of occupation** | **Frequencies** |
|---|---|
| **Tjenestepige** | **1.495** |
| **Væverske** | **36** |
| **Husjomfrue** | **21** |
| **Spinder** | **17** |
| **Husholderske** | **11** |
| **Syrerske** | **10** |
| **Lever af sine midler** | **8** |

| | |
|---|---|
| **Mejeripige** | **8** |
| **Skrædderpige** | **7** |
| **Kokkepige** | **6** |

**Almisse: 20. We have chosen not to include this under ‘erhverv’ because it is not an actual job despite the recipient receiving “wages”. Nonetheless, we have decided to highlight it anyway because it could be useful for a possible later comparison between this dataset and another from a later date.**