

## 2:W35: Open Refine

### DESCRIPTION

Upload your answers to these questions:

1. **Create a spreadsheet listing the names of Danish monarchs with their birth- and death-date and start and end year of reign. Make it \*tidy\*! They should be sortable by year of birth. Suitable source websites are [here](#) and [here](#), but you can also use another source, provided you reference it. (Group collaboration is expected and welcome. Remember to attach this spreadsheet to Brightspace submission)**

Cultural Data Science 2022  
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| Monarch                  | year_of_birth | date_of_birth | year_of_death | year_of_death | year_of_start_reign | year_of_end_reign |
|--------------------------|---------------|---------------|---------------|---------------|---------------------|-------------------|
| Gorm den Gamle           | NA            | NA            | 958           | NA            | 936                 | 958               |
| Harald 1. Blåtand        | 932           | NA            | 985           | 1/10/0985     | 958                 | 985               |
| Svend 1. Tveskæg         | 963           | 17/04/0963    | 1014          | 03/02/1014    | 985                 | 1014              |
| Harald 2.                | 996           | NA            | 1018          | 1018          | 1014                | 1018              |
| Knud 1. den Store        | 995           | NA            | 1035          | 12/10/1035    | 1018                | 1035              |
| Hardeknud                | 1018          | NA            | 1042          | 08/06/1042    | 1035                | 1042              |
| Magnus den Gode          | 1019          | NA            | 1047          | 25/10/1047    | 1042                | 1047              |
| Svend 2. Estridsen       | 1040          | NA            | 1076          | 28/04/1076    | 1047                | 1074              |
| Harald 3. Hen            | 1042          | NA            | 1080          | 17/04/1080    | 1074                | 1080              |
| Knud 2. den Hellige      | 1050          | NA            | 1086          | 10/07/1086    | 1080                | 1086              |
| Oluf 1. Hunger           | 1055          | NA            | 1095          | 18/08/1095    | 1086                | 1095              |
| Erik 1. Ejegod           | 1065          | NA            | 1103          | 10/07/1103    | 1095                | 1103              |
| Niels                    | 1065          | NA            | 1134          | 25/06/1134    | 1104                | 1134              |
| Erik 2. Emune            | 1090          | NA            | 1137          | 18/09/1137    | 1134                | 1137              |
| Erik 3. Lam              | 1120          | NA            | 1146          | 27/08/1146    | 1137                | 1146              |
| Svend 3.                 | 1125          | NA            | 1157          | 23/10/1157    | 1146                | 1157              |
| Knud 3.                  | 1125          | NA            | 1157          | 09/08/1157    | 1146                | 1157              |
| Valdemar 1. den Store    | 1131          | 14/01/1131    | 1182          | 12/05/1182    | 1146                | 1157              |
| Valdemar 1. den Store    | 1131          | 14/01/1131    | 1182          | 12/05/1182    | 1157                | 1182              |
| Knud 4.                  | 1162          | NA            | 1202          | 12/11/1202    | 1182                | 1202              |
| Valdemar 2. Sejr         | 1170          | 01/05/1170    | 1241          | 28/03/1241    | 1202                | 1241              |
| Erik 4. Plovpenning      | 1216          | NA            | 1250          | 10/08/1250    | 1241                | 1250              |
| Abel                     | 1218          | NA            | 1252          | 29/06/1252    | 1250                | 1252              |
| Christoffer 1.           | 1219          | NA            | 1259          | 29/05/1259    | 1252                | 1259              |
| Erik 5. Klipping         | 1249          | NA            | 1286          | 22/11/1286    | 1259                | 1286              |
| Erik 6. Menved           | 1274          | NA            | 1319          | 13/11/1319    | 1286                | 1319              |
| Christoffer 2.           | 1276          | 29/09/1276    | 1332          | 02/08/1332    | 1319                | 1326              |
| Valdemar 3.              | 1315          | NA            | 1364          | 1364          | 1326                | 1329              |
| Christoffer 2.           | 1276          | 29/09/1276    | 1332          | 02/08/1332    | 1329                | 1332              |
| Valdemar 4. Atterdag     | 1320          | NA            | 1375          | 24/10/1375    | 1340                | 1375              |
| Oluf 2.                  | 1370          | 01/12/1370    | 1387          | 03/08/1387    | 1375                | 1387              |
| Margrete 1.              | 1353          | 01/03/1353    | 1412          | 28/10/1412    | 1387                | 1396              |
| Erik 7. af Pommern       | 1382          | NA            | 1459          | 24/09/1459    | 1396                | 1439              |
| Christoffer 3. af Bayern | 1416          | 26/02/1416    | 1448          | 06/01/1448    | 1440                | 1448              |
| Christian 1.             | 1426          | NA            | 1481          | 21/05/1481    | 1448                | 1481              |
| Hans                     | 1455          | 02/02/1455    | 1513          | 20/02/1513    | 1482                | 1513              |
| Christian 2.             | 1481          | 01/07/1481    | 1559          | 25/01/1559    | 1513                | 1523              |
| Frederik 1.              | 1471          | 7/10/1471     | 1533          | 10/05/1533    | 1523                | 1533              |
| Christian 3.             | 1503          | 12/08/1503    | 1559          | 01/01/1559    | 1536                | 1559              |
| Frederik 2.              | 1534          | 01/07/1534    | 1588          | 04/04/1588    | 1559                | 1588              |
| Christian 4.             | 1577          | 12/04/1577    | 1648          | 28/02/1648    | 1588                | 1648              |
| Frederik 3.              | 1609          | 08/03/1609    | 1670          | 09/02/1670    | 1648                | 1670              |
| Christian 5.             | 1646          | 15/04/1646    | 1699          | 25/08/1699    | 1670                | 1699              |
| Frederik 4.              | 1671          | 11/10/1671    | 1730          | 12/10/1730    | 1699                | 1730              |
| Christian 6.             | 1699          | 30/11/1699    | 1746          | 06/08/1746    | 1730                | 1746              |
| Frederik 5.              | 1723          | 31/03/1723    | 1766          | 14/01/1766    | 1746                | 1766              |
| Christian 7.             | 1749          | 29/01/1749    | 1808          | 13/03/1808    | 1766                | 1808              |
| Frederik 6.              | 1768          | 28/1/1768     | 1839          | 3/12/1839     | 1808                | 1839              |
| Christian 8.             | 1786          | 18/09/1786    | 1848          | 20/01/1848    | 1839                | 1848              |
| Frederik 7.              | 1808          | 6/10/1808     | 1863          | 15/11/1863    | 1848                | 1863              |
| Christian 9.             | 1818          | 08/04/1818    | 1906          | 29/01/1906    | 1863                | 1906              |

- b. CSV will be attached in the submission

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

- a. When opening the raw monarch data in OpenRefine, every observation seems to be made into text. Thus all numerical observations suddenly become converted into text, which disturbs the data organization.

55 rows Extensions: Wikidata

Show as: rows records Show: 5 10 25 50 rows « first < previous 1 - 10 next > last »

|   |     | ▼ All | ▼ Monarch           | ▼ year_of_birth | ▼ date_of_birth | ▼ year_of_birth2 | ▼ year_of_death | ▼ year_of_start_re | ▼ year_of_end_rei |
|---|-----|-------|---------------------|-----------------|-----------------|------------------|-----------------|--------------------|-------------------|
| ★ | 1.  |       | Gorm den Gamle      | NA              | NA              | 958              | Na              | 936                | 958               |
| ★ | 2.  |       | Harald 1. Blåtand   |                 |                 |                  |                 | 958                | 985               |
| ★ | 3.  |       | Svend 1. Tveskæg    |                 |                 |                  |                 | 985                | 1014              |
| ★ | 4.  |       | Harald 2.           |                 |                 |                  |                 | 1014               | 1018              |
| ★ | 5.  |       | Knud 1. den Store   |                 |                 |                  |                 | 1018               | 1035              |
| ★ | 6.  |       | Hardeknud           |                 |                 |                  |                 | 1035               | 1042              |
| ★ | 7.  |       | Magnus den Gode     |                 |                 |                  |                 | 1042               | 1047              |
| ★ | 8.  |       | Svend 2. Estridsen  | 1040            | NA              | 1076             | 28/04/1076      | 1047               | 1074              |
| ★ | 9.  |       | Harald 3. Hen       | 1042            | NA              | 1080             | 17/04/1080      | 1074               | 1080              |
| ★ | 10. |       | Knud 2. den Hellige | 1050            | NA              | 1086             | 10/07/1086      | 1080               | 1086              |

Data type: text

958

Apply Apply to All Identical Cells Cancel

Enter Ctrl-Enter Esc

## 3. Fix the [interviews dataset](#) in OpenRefine enough to answer this question: "Which two months are reported as the most water-deprived/driest by the interviewed farmer households?"

- a. Using the filtering functions to remove "[ ]", i.e, `value.replace("[ ]", "")`, I am able to count the most water-deprived months. The two most water deprived months are October and September, as September occurs 70 times in the dataset and October occurs 74 times in the dataset as seen below.

| Cluster Size | Row Count | Values in Cluster  | Merge?                   | New Cell Value |
|--------------|-----------|--|--------------------------|----------------|
| 4            | 74        | <ul style="list-style-type: none"> <li>Oct (38 rows)</li> <li>Oct (25 rows)</li> <li>Oct (9 rows)</li> <li>Oct (2 rows)</li> </ul> | <input type="checkbox"/> | Oct            |
| 4            | 51        | <ul style="list-style-type: none"> <li>Nov (41 rows)</li> <li>Nov (7 rows)</li> <li>Nov (2 rows)</li> <li>Nov (1 rows)</li> </ul>  | <input type="checkbox"/> | Nov            |
| 3            | 70        | <ul style="list-style-type: none"> <li>Sept (37 rows)</li> <li>Sept (27 rows)</li> <li>Sept (6 rows)</li> </ul>                    | <input type="checkbox"/> | Sept           |
| 2            | 33        | <ul style="list-style-type: none"> <li>Aug (31 rows)</li> <li>Aug (2 rows)</li> </ul>  | <input type="checkbox"/> | Aug            |
| 2            | 2         | <ul style="list-style-type: none"> <li>July (1 rows)</li> <li>July (1 rows)</li> </ul>   | <input type="checkbox"/> | July           |

b.

4. **Real-Data-Challenge:** What are the 10 most frequent occupations (erhverv) among unmarried men and women in [1801 Aarhus](#)? (hint: some expert judgement interpretation is necessary, look at the [HISCO classification](#) "Historical International Standard of Classification of Occupations" on [Dataverse](#) if ambitious)

- Below are listed the top 10 most frequent occupations among unmarried men and women in 1801 Aarhus.
- Note that number 1, 2, 3, and 7 of the observations on the list are pretty much the same occupation, however it still implies that the most frequent occupation seems to be soldier..

```

25  ```{r}
26  aarhus_df <- read.csv("census-1801-normalized.csv", na.strings=c("", "NA"))
27
28  ls.str(aarhus_df)
29
30  unique(aarhus_df$erhverv)
31
32  #filtering by marriage status
33  new <- aarhus_df %>%
34    filter(civilstand == "ugift") %>%
35    select(erhverv)
36
37  #removing NA's
38  occupations<- tibble(erhverv= na.omit(new$erhverv))
39
40  #count how many people have the same occupation
41  occupations <- occupations %>%
42    count(erhverv) %>%
43    arrange(desc(n))
44
45  #printing the first 10 rows in dataframe
46  occupations[1:10,]
47  ```

```

40:48 C Chunk 3

Console

Terminal x

Jobs x

~/Desktop/OneDrive - Aarhus Universitet/Cognitive Science/5th semester/Cultural Datascience/Week1/ ➔

| erhverv                         | n     |
|---------------------------------|-------|
| <chr>                           | <int> |
| 1 National Soldat               | 96    |
| 2 soldat ved 1. Jyske Inf. Reg. | 94    |
| 3 nationalsoldat                | 61    |
| 4 Tienestepige                  | 61    |
| 5 Tienestekarl                  | 47    |
| 6 læredreng                     | 42    |
| 7 Nationalsoldat                | 36    |
| 8 Væver                         | 36    |
| 9 Bonde og Gaardbeboer          | 32    |
| 10 Tienestedræng                | 32    |

C.