Vaccines_Analysis

18F-0149

12/18/2021

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
data <- read.csv("C:\\Users\\HP\\Desktop\\practice\\country_vaccinations.csv")
colnames(data)
```

```
##  [1] "country"                              "iso_code"
##  [3] "date"                                 "total_vaccinations"
##  [5] "people_vaccinated"                    "people_fully_vaccinated"
##  [7] "daily_vaccinations_raw"               "daily_vaccinations"
##  [9] "total_vaccinations_per_hundred"       "people_vaccinated_per_hundred"
## [11] "people_fully_vaccinated_per_hundred" "daily_vaccinations_per_million"
## [13] "vaccines"                             "source_name"
## [15] "source_website"
```

```
#Getting useful columns
data_set<-data[,1:13]
#Putting 0 at NA values
data_set[is.na(data_set)==1]=0
#Summary of dataset
data_set_summary<-summary(data_set[,4:12])
data_set_summary
```

```
##  total_vaccinations  people_vaccinated   people_fully_vaccinated
##  Min.   :0.000e+00   Min.   :        0   Min.   :        0
##  1st Qu.:0.000e+00   1st Qu.:        0   1st Qu.:        0
##  Median :2.641e+04   Median :     9158   Median :        0
##  Mean   :6.706e+06   Mean   :  3022827   Mean   :  1454557
##  3rd Qu.:1.218e+06   3rd Qu.:   759659   3rd Qu.:   238369
##  Max.   :1.426e+09   Max.   :622000000   Max.   :223299000
##  daily_vaccinations_raw daily_vaccinations total_vaccinations_per_hundred
##  Min.   :       0       Min.   :       0   Min.   :  0.00
##  1st Qu.:       0       1st Qu.:     809   1st Qu.:  0.00
##  Median :       0       Median :    6229   Median :  0.66
##  Mean   :  104957       Mean   :  113897   Mean   : 16.36
##  3rd Qu.:   17032       3rd Qu.:   34868   3rd Qu.: 18.64
```

```
##  Max.   :24741000       Max.   :22424286   Max.   :232.35
##  people_vaccinated_per_hundred people_fully_vaccinated_per_hundred
##  Min.   :  0.00                Min.   :  0.000
##  1st Qu.:  0.00                1st Qu.:  0.000
##  Median :  0.21                Median :  0.000
##  Mean   : 10.16                Mean   :  5.449
##  3rd Qu.: 12.02                3rd Qu.:  3.982
##  Max.   :116.66                Max.   :115.690
##  daily_vaccinations_per_million
##  Min.   :     0
##  1st Qu.:   389
##  Median :  1808
##  Mean   :  3394
##  3rd Qu.:  5063
##  Max.   :118759
```

```
#Removing countries which make UK
countries_remove= c("England", "Scotland", "Wales", "Northern Ireland")
data_set <- data_set %>%
  filter (!country %in% countries_remove)
unique(data_set$country)
```

```
##   [1] "Afghanistan"                      "Albania"
##   [3] "Algeria"                          "Andorra"
##   [5] "Angola"                           "Anguilla"
##   [7] "Antigua and Barbuda"              "Argentina"
##   [9] "Armenia"                          "Aruba"
##  [11] "Australia"                        "Austria"
##  [13] "Azerbaijan"                       "Bahamas"
##  [15] "Bahrain"                          "Bangladesh"
##  [17] "Barbados"                         "Belarus"
##  [19] "Belgium"                          "Belize"
##  [21] "Benin"                            "Bermuda"
##  [23] "Bhutan"                           "Bolivia"
##  [25] "Bonaire Sint Eustatius and Saba"  "Bosnia and Herzegovina"
##  [27] "Botswana"                         "Brazil"
##  [29] "British Virgin Islands"           "Brunei"
##  [31] "Bulgaria"                         "Burkina Faso"
##  [33] "Cambodia"                         "Cameroon"
##  [35] "Canada"                           "Cape Verde"
##  [37] "Cayman Islands"                   "Central African Republic"
##  [39] "Chad"                             "Chile"
##  [41] "China"                            "Colombia"
##  [43] "Comoros"                          "Congo"
##  [45] "Cook Islands"                     "Costa Rica"
##  [47] "Cote d'Ivoire"                    "Croatia"
##  [49] "Cuba"                             "Curacao"
##  [51] "Cyprus"                           "Czechia"
##  [53] "Democratic Republic of Congo"     "Denmark"
##  [55] "Djibouti"                         "Dominica"
##  [57] "Dominican Republic"               "Ecuador"
##  [59] "Egypt"                            "El Salvador"
##  [61] "Equatorial Guinea"                "Estonia"
##  [63] "Eswatini"                         "Ethiopia"
```

```
##  [65] "Faeroe Islands"                "Falkland Islands"
##  [67] "Fiji"                          "Finland"
##  [69] "France"                        "French Polynesia"
##  [71] "Gabon"                         "Gambia"
##  [73] "Georgia"                       "Germany"
##  [75] "Ghana"                         "Gibraltar"
##  [77] "Greece"                        "Greenland"
##  [79] "Grenada"                       "Guatemala"
##  [81] "Guernsey"                      "Guinea"
##  [83] "Guinea-Bissau"                 "Guyana"
##  [85] "Honduras"                      "Hong Kong"
##  [87] "Hungary"                       "Iceland"
##  [89] "India"                         "Indonesia"
##  [91] "Iran"                          "Iraq"
##  [93] "Ireland"                       "Isle of Man"
##  [95] "Israel"                        "Italy"
##  [97] "Jamaica"                       "Japan"
##  [99] "Jersey"                        "Jordan"
## [101] "Kazakhstan"                    "Kenya"
## [103] "Kosovo"                        "Kuwait"
## [105] "Kyrgyzstan"                    "Laos"
## [107] "Latvia"                        "Lebanon"
## [109] "Lesotho"                       "Liberia"
## [111] "Libya"                         "Liechtenstein"
## [113] "Lithuania"                     "Luxembourg"
## [115] "Macao"                         "Madagascar"
## [117] "Malawi"                        "Malaysia"
## [119] "Maldives"                      "Mali"
## [121] "Malta"                         "Mauritania"
## [123] "Mauritius"                     "Mexico"
## [125] "Moldova"                       "Monaco"
## [127] "Mongolia"                      "Montenegro"
## [129] "Montserrat"                    "Morocco"
## [131] "Mozambique"                    "Myanmar"
## [133] "Namibia"                       "Nauru"
## [135] "Nepal"                         "Netherlands"
## [137] "New Caledonia"                 "New Zealand"
## [139] "Nicaragua"                     "Niger"
## [141] "Nigeria"                       "Niue"
## [143] "North Macedonia"               "Northern Cyprus"
## [145] "Norway"                        "Oman"
## [147] "Pakistan"                      "Palestine"
## [149] "Panama"                        "Papua New Guinea"
## [151] "Paraguay"                      "Peru"
## [153] "Philippines"                   "Pitcairn"
## [155] "Poland"                        "Portugal"
## [157] "Qatar"                         "Romania"
## [159] "Russia"                        "Rwanda"
## [161] "Saint Helena"                  "Saint Kitts and Nevis"
## [163] "Saint Lucia"                   "Saint Vincent and the Grenadines"
## [165] "Samoa"                         "San Marino"
## [167] "Sao Tome and Principe"         "Saudi Arabia"
## [169] "Senegal"                       "Serbia"
## [171] "Seychelles"                    "Sierra Leone"
```

```
## [173] "Singapore"                          "Sint Maarten (Dutch part)"
## [175] "Slovakia"                           "Slovenia"
## [177] "Solomon Islands"                    "Somalia"
## [179] "South Africa"                       "South Korea"
## [181] "South Sudan"                        "Spain"
## [183] "Sri Lanka"                          "Sudan"
## [185] "Suriname"                           "Sweden"
## [187] "Switzerland"                        "Syria"
## [189] "Taiwan"                             "Tajikistan"
## [191] "Thailand"                           "Timor"
## [193] "Togo"                               "Tonga"
## [195] "Trinidad and Tobago"                "Tunisia"
## [197] "Turkey"                             "Turkmenistan"
## [199] "Turks and Caicos Islands"           "Tuvalu"
## [201] "Uganda"                             "Ukraine"
## [203] "United Arab Emirates"               "United Kingdom"
## [205] "United States"                      "Uruguay"
## [207] "Uzbekistan"                         "Vanuatu"
## [209] "Venezuela"                          "Vietnam"
## [211] "Wallis and Futuna"                  "Yemen"
## [213] "Zambia"                             "Zimbabwe"
```

```
# Getting vaccines names
data_set$vaccines <- str_replace_all(data_set$vaccines, " ","")
vaccine_values<- unique(data_set$vaccines)
vaccines<- vector()
for (i in vaccine_values){
  for (j in strsplit(i, ",")){
    vaccines<- c(vaccines, j)
  }
}
vaccine_names<- unique(vaccines)
vaccine_names
```

```
##  [1] "Johnson&Johnson"    "Oxford/AstraZeneca" "Pfizer/BioNTech"
##  [4] "Sinopharm/Beijing"  "Sinovac"            "SputnikV"
##  [7] "Moderna"            "Covaxin"            "CanSino"
## [10] "Sinopharm/Wuhan"    "Abdala"             "Soberana02"
## [13] "QazVac"             "Sinopharm/HayatVax" "EpiVacCorona"
## [16] "RBD-Dimer"
```

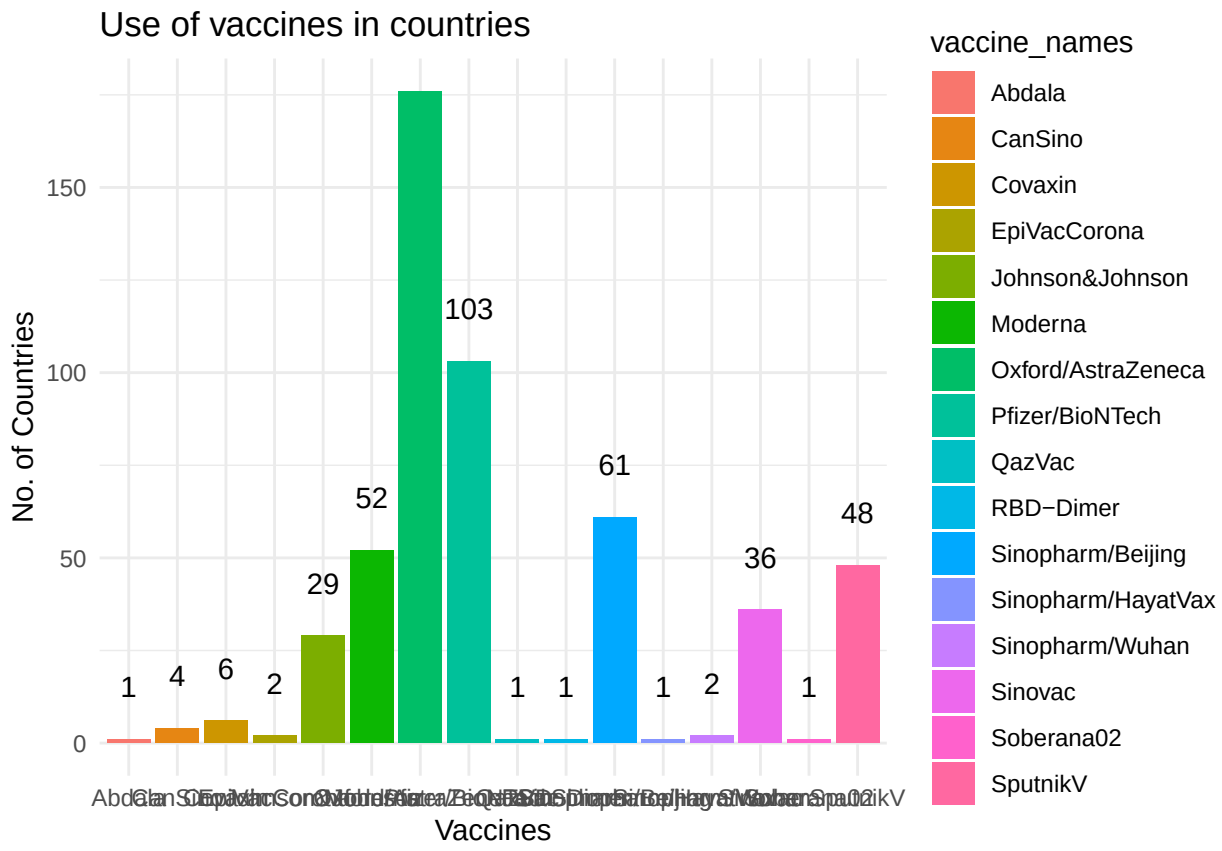
```
#Making a new dataset and removing repetition of countries with respect to vaccines
data_set1<-data.frame(data_set$country,data_set$vaccines)
data_set1<-unique(data_set1)
#Making new column to count countries
vaccines_count<-c(rep(0,length(vaccine_names)))
#Taking count of countries according to the vaccines used
for(i in 1:nrow(data_set1))
{
  x<-data_set1[i,2]
  for(j in strsplit(x,","))
  {
    index<-match(j, vaccine_names)
```

```
    val<-vaccines_count[index]
    vaccines_count[index]<-val+1

  }
}
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.