Assignment 5.1

Aruna

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```r
# How many vowels are there in the names of USA States?
state = rownames(USArrests)
grep("[a]|[e]|[i]|[o]|[u]",state, value=TRUE)
```

```
##  [1] "Alabama"        "Alaska"         "Arizona"        "Arkansas"
##  [5] "California"     "Colorado"       "Connecticut"    "Delaware"
##  [9] "Florida"        "Georgia"        "Hawaii"         "Idaho"
## [13] "Illinois"       "Indiana"        "Iowa"           "Kansas"
## [17] "Kentucky"       "Louisiana"      "Maine"          "Maryland"
## [21] "Massachusetts"  "Michigan"       "Minnesota"      "Mississippi"
## [25] "Missouri"       "Montana"        "Nebraska"       "Nevada"
## [29] "New Hampshire"  "New Jersey"     "New Mexico"     "New York"
## [33] "North Carolina" "North Dakota"   "Ohio"           "Oklahoma"
## [37] "Oregon"         "Pennsylvania"   "Rhode Island"   "South Carolina"
## [41] "South Dakota"   "Tennessee"      "Texas"          "Utah"
## [45] "Vermont"        "Virginia"       "Washington"     "West Virginia"
## [49] "Wisconsin"      "Wyoming"
```
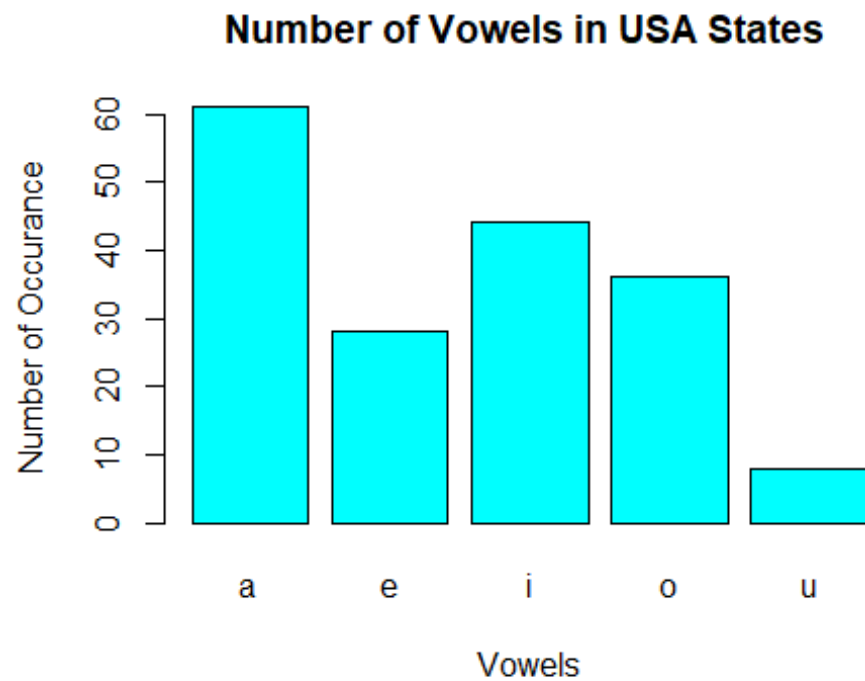
```r
# count number of vowels in each of the state
#install.packages("stringr")
library(stringr)
# vector of vowels
vowels = c("a", "e", "i", "o", "u")
# vector for storing results
num_vowels = vector(mode = "integer", length = 5)
# calculate number of vowels in each name
for (j in seq_along(vowels)) {

  num_aux = str_count(tolower(state), vowels[j])
  num_vowels[j] = sum(num_aux) }
# add vowel names
names(num_vowels) = vowels
# total number of vowels
num_vowels
```

```
##  a  e  i  o  u
## 61 28 44 36  8
```

```r
# 2. Visualize the Vowel Distribution
barplot(num_vowels,xlab="Vowels",
    ylab="Number of Occurance",
```

```
    main = "Number of Vowels in USA States ",col = "cyan"
    )
```

Number of Vowels in USA States

R Markdown