

1. states=rownames(USArrests)

- Get states names with 'w'.

**states = rownames(USArrests)**

**states**

```
> states
[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"
```

**x <- grep("w", states)**

**x**

```
> x
[1] 8 11 15 29 30 31 32
```

```
for (i in 1:length(x)) {
  print(states[x[i]])
}
```

```
> for (i in 1:length(x)) {
+   print(states[x[i]])
+ }
[1] "Delaware"
[1] "Hawaii"
[1] "Iowa"
[1] "New Hampshire"
[1] "New Jersey"
[1] "New Mexico"
[1] "New York"
```

- Get states names with 'W'.

**X <- grep("W", states)**

**X**

```
> X
[1] 47 48 49 50
```

```
for (i in 1:length(X)) {
  print(states[X[i]])
}
```

```
> for (i in 1:length(X)) {
+   print(states[X[i]])
+ }
[1] "Washington"
[1] "West Virginia"
[1] "Wisconsin"
[1] "Wyoming"
```

2. Prepare a histogram of the number of characters in each US state.

```
df <- nchar(states)
```

```
hist(df, xlab = "No.of Characters in each state", col = "red")
```

