Assignment 1

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```r
library(data.table)
Mushrooms_DATA <- fread('https://archive.ics.uci.edu/ml/machine-learning-databases/mushroom/agaricus-lep

Mushroom <- data.frame(Mushrooms_DATA[1:100,])

View(Mushroom)

Mushroom_Sample <-Mushroom[sample(nrow(Mushroom),20),]

str(Mushroom_Sample)
```

```
## 'data.frame':    20 obs. of  23 variables:
##  $ p  : chr  "e" "e" "e" "e" ...
##  $ x  : chr  "x" "x" "b" "b" ...
##  $ s  : chr  "s" "f" "y" "s" ...
##  $ n  : chr  "n" "n" "w" "w" ...
##  $ t  : chr  "f" "f" "t" "t" ...
##  $ p.1: chr  "n" "n" "a" "a" ...
##  $ f  : chr  "f" "f" "f" "f" ...
##  $ c  : chr  "w" "c" "c" "c" ...
##  $ n.1: chr  "b" "n" "b" "b" ...
##  $ k  : chr  "k" "n" "w" "w" ...
##  $ e  : chr  "t" "e" "e" "e" ...
##  $ e.1: chr  "e" "e" "c" "c" ...
##  $ s.1: chr  "f" "s" "s" "s" ...
##  $ s.2: chr  "s" "s" "s" "s" ...
##  $ w  : chr  "w" "w" "w" "w" ...
##  $ w.1: chr  "w" "w" "w" "w" ...
##  $ p.2: chr  "p" "p" "p" "p" ...
##  $ w.2: chr  "w" "w" "w" "w" ...
##  $ o  : chr  "o" "o" "o" "o" ...
##  $ p.3: chr  "e" "p" "p" "p" ...
##  $ k.1: chr  "n" "n" "n" "k" ...
##  $ s.3: chr  "s" "y" "n" "s" ...
##  $ u  : chr  "g" "u" "m" "g" ...
```

```r
colnames(Mushroom_Sample) <- c("class", "cap-shape", "cap-surface", "cap_color", "bruises?","odor", "gi

Mushrooms_class<- c(e ="edible", p="poisonous")
Mushrooms_class[Mushroom_Sample$class]
```

```
##           e          e          e          e          p          p
##    "edible"   "edible"   "edible"   "edible" "poisonous" "poisonous"
##           e          e          e          e          e          e
##    "edible"   "edible"   "edible"   "edible"   "edible"   "edible"
##           p          e          e          e          e          e
## "poisonous"   "edible"   "edible"   "edible"   "edible"   "edible"
##           e          e
##    "edible"   "edible"
```

```r
Mushroom_Sample$class <-Mushrooms_class[Mushroom_Sample$class]

Mushrooms_cap_shape<- c(b ="bell", c="conical", x="convex",f="flat",k="knobbed",s="sunken")
Mushrooms_cap_shape[Mushroom_Sample$`cap-shape`]
```

```
##        x        x        b        b        x        x        x        f
## "convex" "convex"    "bell"    "bell" "convex" "convex" "convex"    "flat"
##        x        x        x        x        x        x        b        x
## "convex" "convex" "convex" "convex" "convex" "convex"    "bell" "convex"
##        f        f        x        b
##    "flat"    "flat" "convex"    "bell"
```

```r
Mushroom_Sample$`cap-shape` <-Mushrooms_cap_shape[Mushroom_Sample$`cap-shape`]
```

```r
Mushrooms_Surface<-c(f="fibrous", g="grooves",y="scaly", s="smooth")
Mushrooms_Surface[Mushroom_Sample$`cap-surface`]
```

```
##        s        f        y        s        s        y        y
##  "smooth" "fibrous"   "scaly"  "smooth"  "smooth"   "scaly"   "scaly"
##        s        f        y        y        y        y        s
##  "smooth" "fibrous"   "scaly"   "scaly"   "scaly"   "scaly"  "smooth"
##        s        y        f        f        s        s
##  "smooth"   "scaly" "fibrous" "fibrous"  "smooth"  "smooth"
```

```r
Mushroom_Sample$`cap-surface` <-Mushrooms_Surface[Mushroom_Sample$`cap-surface`]
```

```r
Mushrooms_cap_colors<-  c(n="brown", b="buff", c="cinnamon", g="gray", r="green", p="pink", u="purple",

Mushrooms_cap_colors[Mushroom_Sample$cap_color]
```

```
##        n        n        w        w        n        n        y        y
##  "brown"  "brown"  "white"  "white"  "brown"  "brown" "yellow" "yellow"
##        y        y        y        n        w        w        w        y
## "yellow" "yellow" "yellow"  "brown"  "white"  "white"  "white" "yellow"
##        y        y        w        y
## "yellow" "yellow"  "white" "yellow"
```

```r
Mushroom_Sample$cap_color<-Mushrooms_cap_colors[Mushroom_Sample$cap_color]
```

```r
Mushrooms_Bruises <- c(t="Yes",f="No")

Mushrooms_Bruises[Mushroom_Sample$`bruises?`]
```

```
##     f     f     t     t     t     t     t     t     t     t     t     t
##  "No"  "No" "Yes" "Yes" "Yes" "Yes" "Yes" "Yes" "Yes" "Yes" "Yes" "Yes"
##     t     t     t     t     t     t     t     t
## "Yes" "Yes" "Yes" "Yes" "Yes" "Yes" "Yes" "Yes"
```

```r
Mushroom_Sample$`bruises?`<-  Mushrooms_Bruises[Mushroom_Sample$`bruises?`]
```

```r
Mushroom_Sample[1:20,1:5]
```

```
##         class cap-shape cap-surface cap_color bruises?
## 80     edible    convex      smooth     brown       No
## 90     edible    convex     fibrous     brown       No
## 23     edible      bell       scaly     white      Yes
## 86     edible      bell      smooth     white      Yes
## 17 poisonous    convex      smooth     brown      Yes
```

```
## 78 poisonous    convex      scaly     brown    Yes
## 10    edible     convex      scaly    yellow    Yes
## 75    edible       flat     smooth    yellow    Yes
## 38    edible     convex    fibrous    yellow    Yes
## 84    edible     convex      scaly    yellow    Yes
## 32    edible     convex      scaly    yellow    Yes
## 33    edible     convex      scaly     brown    Yes
## 3  poisonous    convex      scaly     white    Yes
## 76    edible     convex     smooth     white    Yes
## 52    edible       bell     smooth     white    Yes
## 26    edible     convex      scaly    yellow    Yes
## 72    edible       flat    fibrous    yellow    Yes
## 70    edible       flat    fibrous    yellow    Yes
## 47    edible     convex     smooth     white    Yes
## 74    edible       bell     smooth    yellow    Yes
```