

Assignment 1

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```
library(RCurl)
```

```
## Loading required package: bitops
```

```
mushroomInfo <- read.csv(text=getURL("https://archive.ics.uci.edu/ml/machine-learning-databases/mushroom"))
```

```
#Took these attribute names from the archive page
```

```
names(mushroomInfo)<- c('class','capshape','capsurface','capcolor','bruises','odor','gillattachment','gillspacing','gillsize','gillcolor','stalkshape','stalkroot','stalksurfaceabovering','stalksurfacebelowring','stalkcolorabovering','stalkcolorbelowring','veiltype','veilcolor','ringnumber','ringtype','sporeprintcolor','population','habitat')
```

```
summary(mushroomInfo)
```

```
## class      capshape capsurface  capcolor  bruises      odor
## e:4208      b: 452   f:2320      n      :2284  f:4748      n      :3528
## p:3916      c:   4    g:   4      g      :1840  t:3376      f      :2160
##           f:3152   s:2556   e      :1500      s      : 576
##           k: 828   y:3244   y      :1072      y      : 576
##           s:  32      w      :1040      a      : 400
##           x:3656      b      : 168      l      : 400
##           (Other): 220      (Other): 484
## gillattachment gillspacing gillsize  gillcolor  stalkshape stalkroot
## a: 210          c:6812      b:5612   b      :1728  e:3516      ?:2480
## f:7914          w:1312      n:2512   p      :1492  t:4608      b:3776
##           w      :1202      c: 556
##           n      :1048      e:1120
##           g      : 752      r: 192
##           h      : 732
##           (Other):1170
## stalksurfaceabovering stalksurfacebelowring stalkcolorabovering
## f: 552          f: 600      w      :4464
## k:2372          k:2304      p      :1872
## s:5176          s:4936      g      : 576
## y:  24          y: 284      n      : 448
##           b      : 432
##           o      : 192
##           (Other): 140
## stalkcolorbelowring veiltype veilcolor ringnumber ringtype
## w      :4384      p:8124   n:  96   n:  36   e:2776
## p      :1872      o:  96   o:7488   f:  48
## g      : 576      w:7924   t: 600   l:1296
## n      : 512      y:   8      n:  36
## b      : 432      p:3968
## o      : 192
## (Other): 156
## sporeprintcolor population habitat
## w      :2388      a: 384      d:3148
## n      :1968      c: 340      g:2148
## k      :1872      n: 400      l: 832
## h      :1632      s:1248      m: 292
```

```
## r      : 72    v:4040    p:1144
## b      : 48    y:1712    u: 368
## (Other): 144          w: 192
```

```
sub.m_Info <- subset(mushroomInfo, select = c(class, ringtype, population, habitat))
```

```
summary(sub.m_Info)
```

```
## class    ringtype population habitat
## e:4208    e:2776    a: 384      d:3148
## p:3916    f: 48     c: 340      g:2148
##          l:1296    n: 400      l: 832
##          n: 36     s:1248    m: 292
##          p:3968    v:4040    p:1144
##          y:1712    u: 368
##          w: 192
```

#Changing variables for subsets

```
sub.m_Info$class <- as.character(sub.m_Info$class)
sub.m_Info$class[sub.m_Info$class == 'e'] <- 'Edible'
sub.m_Info$class[sub.m_Info$class == 'p'] <- 'Poisonous'
sub.m_Info$class <- as.factor(sub.m_Info$class)
```

```
sub.m_Info$ringtype <- as.character(sub.m_Info$ringtype)
sub.m_Info$ringtype[sub.m_Info$ringtype == 'c'] <- 'Cobwebby'
sub.m_Info$ringtype[sub.m_Info$ringtype == 'e'] <- 'Evanescent'
sub.m_Info$ringtype[sub.m_Info$ringtype == 'f'] <- 'Flaring'
sub.m_Info$ringtype[sub.m_Info$ringtype == 'l'] <- 'Large'
sub.m_Info$ringtype[sub.m_Info$ringtype == 'n'] <- 'None'
sub.m_Info$ringtype[sub.m_Info$ringtype == 'p'] <- 'Pendant'
sub.m_Info$ringtype[sub.m_Info$ringtype == 's'] <- 'Sheathing'
sub.m_Info$ringtype[sub.m_Info$ringtype == 'z'] <- 'Zone'
sub.m_Info$ringtype <- as.factor(sub.m_Info$ringtype)
```

```
sub.m_Info$population <- as.character(sub.m_Info$population)
sub.m_Info$population[sub.m_Info$population == 'a'] <- 'Abundant'
sub.m_Info$population[sub.m_Info$population == 'c'] <- 'Clustered'
sub.m_Info$population[sub.m_Info$population == 'n'] <- 'Numerous'
sub.m_Info$population[sub.m_Info$population == 's'] <- 'Scattered'
sub.m_Info$population[sub.m_Info$population == 'v'] <- 'Several'
sub.m_Info$population[sub.m_Info$population == 'y'] <- 'Solitary'
sub.m_Info$population <- as.factor(sub.m_Info$population)
```

```
sub.m_Info$habitat <- as.character(sub.m_Info$habitat)
sub.m_Info$habitat[sub.m_Info$habitat == 'g'] <- 'Grasses'
sub.m_Info$habitat[sub.m_Info$habitat == 'l'] <- 'Leaves'
sub.m_Info$habitat[sub.m_Info$habitat == 'm'] <- 'Meadows'
sub.m_Info$habitat[sub.m_Info$habitat == 'p'] <- 'Paths'
sub.m_Info$habitat[sub.m_Info$habitat == 'u'] <- 'Urban'
sub.m_Info$habitat[sub.m_Info$habitat == 'w'] <- 'Waste'
sub.m_Info$habitat[sub.m_Info$habitat == 'd'] <- 'Woods'
sub.m_Info$habitat <- as.factor(sub.m_Info$habitat)
```

```
summary(sub.m_Info)
```

##	class	ringtype	population	habitat
##	Edible :4208	Evanescent:2776	Abundant : 384	Grasses:2148
##	Poisonous:3916	Flaring : 48	Clustered: 340	Leaves : 832
##		Large :1296	Numerous : 400	Meadows: 292
##		None : 36	Scattered:1248	Paths :1144
##		Pendant :3968	Several :4040	Urban : 368
##			Solitary :1712	Waste : 192
##				Woods :3148