

LISTS IN R

##Lists can contain elements of different types so that the list elements may have ##

#-----different modes-----#####

#-----Modes-----

mode(1.234)

mode(c(5,6,7,8))

mode("India")

mode(factor(c("UP", "MP"))))

mode(list("India", "USA"))

mode(data.frame(x=1:2, y=c("India", "USA")))

mode(print)

#-----Lists Example-----

x1 <- matrix(nrow=2, ncol=2, data=1:4, byrow=T)

x2 <- matrix(nrow=2, ncol=2, data=5:8, byrow=T)

x1

x2

x1+x2

matrixlist <- list(x1, x2)

matrixlist

matrixlist[1]

#-----List containing different objects

z1 <- list(c("water", "juice", "lemonade"),

rep(1:4, each=2),

matrix(data=5:8, nrow=2, ncol=2, byrow=T))

z1

#-----Accessing the elements of lists-----

z1[[1]]

z1[1][2]

z1[[1]][2]

#-----Vector Indexing

#-----names is used for functions to get or set the names of an object

z <- list(a1 = 1, a2 = "c", a3 = 1:3)

z

names(z)

names(z)[3] <- "c2"

x <- c(water=1, juice=2, lemonade=3)

names(x)

x["juice"]

#-----Creating Matrices from lists

ab <- list(1, 2, 3, "X", "Y", "Z")

dim(ab) <- c(2,3)

mode(ab)

#----Creating Named Lists

xy <- 1:10

```
yz<- rep("a", 3)
```

```
my_list <- list(num=xy, chars= yz)
```

```
my_list
```

```
my_list[1][-2]
```

```
#-----Accessing using name of list element-----
```

```
my_list$num
```

```
my_list["chars"]
```

```
#-----Adding more elements to the list-----#
```

```
#-----to add more elements in the list use c() function-----#
```

```
mat<- matrix(1:4, nrow=2,ncol=2)
```

```
my_list_new<- list(my_list, new_mat=mat)
```

```
my_list_new
```

```
Pos<- 1:6
```

```
Art<- c("Don McLean", "Booker T and the MG's", " The Beatles", "The Rolling  
Stones","Fats Domino", " Abba")
```

```
Song<- c("American Pie", "Green Onions", "Strawberry Fields  
Forever","Brown Sugar", "Blueberry Hill")
```

```
songs_for_foodie<- list( Position=Pos, Artist=Art)
```

```
songs_for_foodie[c(TRUE,FALSE)]
```

```
songs_for_foodie$songs<- Song
```

```
songs_for_foodie[["title"]] <- Song
```

```
songs_for_foodie[["title"]] <- NULL
```

```
songs_for_foodie$Artist <- c("Honey,Honey", "Blue Fairy")
```

```
songs_for_foodie$Artist <- c(Art,"Honey,Honey", "Blue Fairy")
```