

## List in R

R list is the object which contains elements of different types – like strings, numbers, vectors and another list inside it. R list can also contain a matrix or a function as its elements. The list is created using the `list()` function in R.

### How to create a list containing strings, numbers, vectors and a logical value in R?

Create list containing string, numbers, vectors and logical values using `list()` function.

```
list_data <- list("kathmandu", "pokhara", c(1,2,3), TRUE, 22.4)
print(list_data)
```

```
## [[1]]
## [1] "kathmandu"
##
## [[2]]
## [1] "pokhara"
##
## [[3]]
## [1] 1 2 3
##
## [[4]]
## [1] TRUE
##
## [[5]]
## [1] 22.4
```

### How to name the list element in R ?

The list can be created using `list()` function in R. Named list is also created with the same function by specifying the names of the elements to access them.

```
list_data <- list("a"="kathmandu", "b"="pokhara", "c"=c(1,2,3), "d"=TRUE, "e"=22.4)
print(list_data)
```

```
## $a
## [1] "kathmandu"
##
## $b
## [1] "pokhara"
##
## $c
## [1] 1 2 3
##
## $d
## [1] TRUE
##
## $e
## [1] 22.4
```

### How to assess list element in R?

```
list_data <- list("a"="kathmandu", "b"="pokhara", "c"=c(1,2,3), "d"=TRUE, "e"=22.4)
# if name assign to list element then $ is use
print(list_data$a)
```

```
## [1] "kathmandu"
# to assess the list element using location
print(list_data[1])

## $a
## [1] "kathmandu"
# access element of vectors
print(list_data[[3]][[3]])

## [1] 3
```

## How to manipulate list element in R ?

List manipulation occurs by create, read, update and delete in list.

```
# create list data
list_data <- list("ktm", "pkr", c(1, 2, 3), 34)
# read_list data
print(list_data)
```

```
## [[1]]
## [1] "ktm"
##
## [[2]]
## [1] "pkr"
##
## [[3]]
## [1] 1 2 3
##
## [[4]]
## [1] 34
```

```
# add new element to list
list_data[4] <- 30.5
print(list_data)
```

```
## [[1]]
## [1] "ktm"
##
## [[2]]
## [1] "pkr"
##
## [[3]]
## [1] 1 2 3
##
## [[4]]
## [1] 30.5
```

```
# delete last element
list_data[4] <- NULL
list_data
```

```
## [[1]]
## [1] "ktm"
##
## [[2]]
```

```
## [1] "pkr"  
##  
## [[3]]  
## [1] 1 2 3
```

## How to converts list to vectors in R?

Convert list to vector using `unlist()`.

```
print(unlist(list_data))
```

```
## [1] "ktm" "pkr" "1"  "2"  "3"
```