

```
#variable
```

```
var <- 10L
```

```
class(var)
```

```
#Data Structures
```

```
#Vector
```

```
vec <- c("A", "b", "C")
```

```
vec
```

```
class(vec)
```

```
vec1 <- c("D", "e", "F")
```

```
vec2 <- c(vec, vec1)
```

```
vec2
```

```
#Lists
```

```
list1 <- list("Hello", "World")
```

```
list1
```

```
class(list1)
```

```
list2 <- list(1, 2, 3, 4)
```

```
list3 <- c(list1, list2)
```

```
list3
```

```
#Matrix
```

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

```
mat
```

```
mat1 <- matrix(c(5:8), nrow = 2, ncol = 2)
```

```
mat2 <- cbind(mat, mat1)
```

```
mat2
```

```
mat3 <- rbind(mat, mat1)
```

```
mat3
```

```
#Array
```

```
arr <- array(c(1:10), dim = c(2,2,2))
```

```
arr
```

```
#Data Frame
```

```
data_frame <- data.frame (
```

```
  id = c(1, 2, 3),
```

```
  name = c("Arpit", "Ayush", "Aniket"),
```

```
  dept = c("Comp", "IT", "CSE")
```

```
)
```

```
data_frame
```

```
#Factor
```

```
num <- c(1,2,3,4,1,1,1,5,6,6,8,8,9)
```

```
fact <- factor(num)
```

```
fact
```

```
check <- is.factor(num)
```

```
check
```

```
check <- is.factor(fact)
```

```
check
```

## **#OUTPUT**

```
> #variable
> var <- 10L
> class(var)
[1] "integer"
>
> #Data Structures
>
> #Vector
> vec <- c("A", "b" ,"C")
> vec
[1] "A" "b" "C"
> class(vec)
[1] "character"
>
> vec1 <- c("D", "e", "F")
> vec2 <- c(vec, vec1)
> vec2
[1] "A" "b" "C" "D" "e" "F"
>
> #Lists
> list1 <- list("Hello", "World")
> list1
[[1]]
[1] "Hello"

[[2]]
[1] "World"

> class(list1)
[1] "list"
>
> list2 <- list(1, 2, 3, 4)
> list3 <- c(list1, list2)
> list3
[[1]]
[1] "Hello"

[[2]]
[1] "World"

[[3]]
[1] 1

[[4]]
[1] 2

[[5]]
[1] 3

[[6]]
[1] 4

>
```

```

> #Matrix
> mat <- matrix(c(1:4), nrow = 2, ncol = 2)
> mat
      [,1] [,2]
[1,]    1    3
[2,]    2    4
>
> mat1 <- matrix(c(5:8), nrow = 2, ncol = 2)
> mat2 <- cbind(mat, mat1)
> mat2
      [,1] [,2] [,3] [,4]
[1,]    1    3    5    7
[2,]    2    4    6    8
>
> mat3 <- rbind(mat, mat1)
> mat3
      [,1] [,2]
[1,]    1    3
[2,]    2    4
[3,]    5    7
[4,]    6    8
>
> #Array
> arr <- array(c(1:10), dim = c(3,2,2))
> arr
, , 1
      [,1] [,2]
[1,]    1    4
[2,]    2    5
[3,]    3    6
, , 2
      [,1] [,2]
[1,]    7   10
[2,]    8    1
[3,]    9    2
>

```

```

> #Data Frame
> data_frame <- data.frame (
+   id = c(1, 2, 3),
+   name = c("Arpit", "Ayush", "Aniket"),
+   dept = c("Comp", "IT", "CSE")
+ )
> data_frame
  id  name dept
1  1  Arpit Comp
2  2  Ayush  IT
3  3  Aniket CSE
>
> #Factor
> num <- c(1,2,3,4,1,1,1,5,6,6,8,8,9)
> fact <- factor(num)
> fact
[1] 1 2 3 4 1 1 1 5 6 6 8 8 9
Levels: 1 2 3 4 5 6 8 9
>
> check <- is.factor(num)
> check
[1] FALSE
> check <- is.factor(fact)
> check
[1] TRUE
> |

```