

4_RObjects

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introducing R objects

vectors

hold values of same class and declared using vector () and c()

```
v1 <- c(1,2,3,4,5,6,7,8,9,10)
```

```
v1
```

```
## [1] 1 2 3 4 5 6 7 8 9 10
```

```
class(v1)
```

```
## [1] "numeric"
```

```
v2 <- c("hitesh","gajuji","solanki")
```

```
v2
```

```
## [1] "hitesh" "gajuji" "solanki"
```

```
class(v2)
```

```
## [1] "character"
```

```
v3 <- c(T,F)
```

```
v3
```

```
## [1] TRUE FALSE
```

```
class(v3)
```

```
## [1] "logical"
```

```
### how to create vector using vector ()
```

```
v4 <- vector("numeric", length = 20)
```

```
v4
```

```
## [1] 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

```
class(v4)
```

```
## [1] "numeric"
```

```
length(v4)
```

```
## [1] 20
```

```
### concatenating vector meaning mixing two vector of different class and auto assigning mutual class
```

```
v5 <- c("hitesh" , "gajuji")
```

```
v6 <- c(1,2)
```

```
v7 <- c(v5,v6)
```

```
v7
```

```
## [1] "hitesh" "gajuji" "1" "2"
```

```
class(v7)
```

```
## [1] "character"
```

```
v8 <- c(T,F)
```

```
class(v8)
```

```
## [1] "logical"
```

```
v9 <- c("True", "False")
```

```
class(v9)
```

```
## [1] "character"
```

```
v10 <- c(v8,v9)
```

```
v10
```

```
## [1] "TRUE" "FALSE" "True" "False"
```

```

class(v10)

## [1] "character"

### how to print ABCD

v11 <- letters[1:26]

v11

## [1] "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k" "l" "m" "n" "o" "p" "q" "r" "s"
## [20] "t" "u" "v" "w" "x" "y" "z"

### how to do external coercion using as.xxx() function

v12 <- 1:10

v12

## [1] 1 2 3 4 5 6 7 8 9 10

class(v12)

## [1] "integer"

v13 <- as.numeric(v12)

class(v13)

## [1] "numeric"

v14 <- as.character(v12)

class(v14)

## [1] "character"

v15 <- as.logical(v12)

v15

## [1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE

class(v15)

## [1] "logical"

```

```
v16 <- "hitesh"
```

```
v17 <- as.numeric(v16)
```

```
## Warning: NAs introduced by coercion
```

```
class(v17)
```

```
## [1] "numeric"
```

```
v17
```

```
## [1] NA
```

```
### how to get attributes
```

```
v18 <- "my name is hitesh"
```

```
attributes(v18)
```

```
## NULL
```

list ()

can hold value of multiple class

```
### while creating list each item is seperate vector
```

```
l1 <- list("hitesh", 5 , T)
```

```
l1
```

```
## [[1]]
```

```
## [1] "hitesh"
```

```
##
```

```
## [[2]]
```

```
## [1] 5
```

```
##
```

```
## [[3]]
```

```
## [1] TRUE
```

```
class(l1)
```

```
## [1] "list"
```

```
attributes(l1)
```

```
## NULL
```

```
### how to assign names to list objects
```

```
l2 <- list("names" = c("hitesh","gajuji"), "Age" = c(22,50), "alive"= c(T,T))
```

```
l2
```

```
## $names  
## [1] "hitesh" "gajuji"  
##  
## $Age  
## [1] 22 50  
##  
## $alive  
## [1] TRUE TRUE
```

```
class(l2)
```

```
## [1] "list"
```

```
attributes(l2)
```

```
## $names  
## [1] "names" "Age"   "alive"
```