Data Types in R

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##R Markdown

##Data Types in R

```r
# Checking atomic data types
is.atomic(3)        # TRUE
```

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

```r
is.atomic("R CODER") # TRUE
```

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

```r
# Checking data types
typeof(1)      # "double"
```

```
## [1] "double"
```

```r
class(2)       # "numeric"
```

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

```r
storage.mode(3) # "double"
```

```
## [1] "double"
```

```r
mode(4)        # "numeric"
```

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

```r
str(5)         # num 5
```

```
##  num 5
```

```r
# Numeric data types
typeof(2)      # "double"
```

```
## [1] "double"
```

```r
typeof(Inf)    # "double"
```

```
## [1] "double"
```

```r
typeof(-Inf)   # "double"
```

```
## [1] "double"
```

```r
typeof(NaN)    # "double"
```

```
## [1] "double"

typeof(3.12e3) # "double"

## [1] "double"

typeof(0xbade) # "double"

## [1] "double"

is.double(2)   # TRUE

## [1] TRUE

is.double(2.8) # TRUE

## [1] TRUE

# Integer data type
y <- 2L
typeof(y)       # "integer"

## [1] "integer"

is.integer(3)   # FALSE

## [1] FALSE

is.integer(3L)  # TRUE

## [1] TRUE

# Logical data type
t <- TRUE
f <- FALSE
n <- NA
typeof(t)    # "logical"

## [1] "logical"

typeof(f)    # "Logical"

## [1] "logical"

typeof(n)    # "logical"

## [1] "logical"

is.logical(T) # TRUE

## [1] TRUE

is.logical(TRUE) # TRUE

## [1] TRUE
```

```r
# Complex data type
z <- 1 + 3i
typeof(z)       # "complex"

## [1] "complex"

is.complex(z)  # TRUE

## [1] TRUE

# Character data type
character <- "a"
typeof(character)       # "character"

## [1] "character"

is.character(character) # TRUE

## [1] TRUE

typeof('R CODER')       # "character"

## [1] "character"

typeof("R CODER")       # "character"

## [1] "character"

nchar("A string")       # 8

## [1] 8

# Raw data type
a <- charToRaw("R CODER")
typeof(a)      # "raw"

## [1] "raw"

b <- intToBits(3L)
typeof(b)      # "raw"

## [1] "raw"

is.raw(b)      # TRUE

## [1] TRUE

# Date and Time data type
date <- as.Date("2023-10-30")
format(date, "%A %B %d %Y")

## [1] "Monday October 30 2023"
```

```r
# Data type coercion
a <- 3
typeof(a)     # "double"

## [1] "double"

a <- as.integer(a)
typeof(a)     # "integer"

## [1] "integer"

b <- TRUE
b <- as.numeric(b)
b             # 1

## [1] 1

c <- FALSE
c <- as.numeric(c)
c             # 0

## [1] 0

d <- TRUE
d <- as.character(d)
d             # "TRUE"

## [1] "TRUE"

# Invalid coercion example
as.double("R CODER")  # Outputs: NA
```