markdown_notes

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Wk 1 Notes

Code results can be inserted directly into the text of a .Rmd file by enclosing the code with `r`

Parameters are useful when you want to re-render the same report with distinct values for various key inputs, for example:
-Running a report specific to a department or geographic region.
-Running a report that covers a specific period in time.
-Running multiple versions of a report for distinct sets of core assumptions.

Data Types and Vectors in R

Common Data Types:
- Integers (i.e. whole numbers)
- Double (i.e. real, decimal numbers)
- Logical (i.e. boolean)
- Character (i.e. strings)

`typeof()` & `mode()`

Vectors : contiguous cells containing data
- can be of any length - "scalars" : 1 element vector
- vectors are atomic structures - the values must all be of the same type

Coercion

1. If a character is present, R will make everything into characters
2. If there are logicals & numbers, R will make them all numbers

```
x <- c(1, 2, 3, "four", "five")
x
```

```
## [1] "1"    "2"    "3"    "four" "five"
```

```
y <- c(TRUE, FALSE, 3, 4)
y
```

```
## [1] 1 0 3 4
```

Coercion Functions:
- `as.character()` - `as.numeric()` - `as.integer()` - `as.logical()`

Bracket Notation

- to extract values from R objects use brackets
- inside the brackets, specify vector(s) of indices
- use as many indices, separated by commas, as dimensions in the object
- vectors of indices can be numbers, logicals, and sometimes characters

```
x <- c(2, 4, 6, 8)
# adding names
names(x) <- letters[1:4]
x
```

```
## a b c d
## 2 4 6 8
```

```
#first element
x[1]
```

```
## a
## 2
```

```
# x[c(T, F, F, F)]
```

```
#last element
x[length(x)]
```

```
## d
## 8
```

```
# use : for consecutive numbers
x[1:3]
```

```
## a b c
## 2 4 6
```

```
# different oder
x[c(3, 2, 4, 1)]
```

```
## c b d a
## 6 4 8 2
```

```
# elements equal to 2
x[x==2]
```

```
## a
## 2
```

```
x[x>1]
```

```
## a b c d
## 2 4 6 8
```