

choices-prep

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#1 Introduction To Conditional Statements. use to check if some condition is true or not used to subset data in vectors

```
"aang" == "aang"
```

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

```
"aang" == "kora"
```

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

```
"aang" != "Kora"
```

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

```
10<5
```

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

```
10 >= 5
```

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

```
is.na("toph")
```

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

```
"zuko" %in% c("aang", "toph", "katara" )
```

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

```
"zuko" %in% c("aang", "toph", "katara", "zuko")
```

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

```
5 > 2 & 6 >= 10
```

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

```
5 > 2 | 6 >= 10
```

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

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

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

```
site = c('a', 'b', 'c', 'd')  
state = c('FL', 'FL', 'GA', 'AL')
```

```
state == 'FL'
```

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

```
site[state == 'FL'] #sites in which the state is FL
```

```
## [1] "a" "b"
```

```
site[c(TRUE, TRUE, FALSE, FALSE)]
```

```
## [1] "a" "b"
```

#2 Introduction To if Statements In R.

```
#if(the conditional statement is TRUE) {  
# do something  
#}
```

```
x = 4  
if (x > 5){  
  x = x^2  
} # not a function
```

#estimating the biomass of a plant based on the value we measured in the field

```
veg_type = "tree"  
volume = 16.8  
  
if (veg_type == "tree"){  
  mass = 2.65 * volume^0.9  
}
```

#3 Introduction To else if And else Statements in R.

```

veg_type = "tree"
volume = 16.08

if (veg_type == "tree"){
  mass = 2.65 * volume^0.9
} else if (veg_type == "grass"){
  mass = 0.65 * volume^1.2
}

veg_type = "shrub"
volume = 16.08

if (veg_type == "tree"){
  mass = 2.65 * volume^0.9
} else if (veg_type == "grass"){
  mass = 0.65 * volume^1.2
} else {
  mass = NA
}

# allows us to add different conditions

```

#4 Using if/else if/else Statements Inside of Functions in R.

```

est_mass = function(volume, veg_type) {
  if (veg_type == "tree"){
    mass = 2.65 * volume^0.9
  } else if (veg_type == "grass"){
    mass = 0.65 * volume^1.2
  } else {
    mass = NA
  }
  return(mass)
}

# using the function
est_mass(1.6, "tree")

```

```
## [1] 4.045329
```

```
est_mass(1.6, "grass")
```

```
## [1] 1.142503
```

```
est_mass(1.6, "shrub")
```

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

#5 Introduction To Nested if Statements in R

```
est_mass = function(volume, veg_type, age) {  
  if (veg_type == "tree"){  
    if (age < 5){  
      mass = 1.6 * volume^0.8  
    }else {  
      mass = 2.65 * volume^0.9  
    }  
  } else if (veg_type == "grass"){  
    mass = 0.65 * volume^1.2  
  } else {  
    mass = NA  
  }  
  return(mass)  
}  
est_mass(1.6, "tree", 4 )
```

```
## [1] 2.330322
```

```
est_mass(1.6, "tree", 6 )
```

```
## [1] 4.045329
```

```
est_mass(1.6, "grass")
```

```
## [1] 1.142503
```

```
est_mass(1.6, "shrub")
```

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