**The if Statement**

An "if statement" is written with the if keyword, and it is used to specify a block of code to be executed if a condition is TRUE:

a <- 33

b <- 200

if (b > a) {

print("b is greater than a")

}

Else If

The else if keyword is R's way of saying "if the previous conditions were not true, then try this condition":

a <- 33

b <- 33

if (b > a) {

print("b is greater than a")

} else if (a == b) {

print ("a and b are equal")

}

If Else

The else keyword catches anything which isn't caught by the preceding conditions:

a <- 200

b <- 33

if (b > a) {

print("b is greater than a")

} else if (a == b) {

print("a and b are equal")

} else {

print("a is greater than b")

}

**Example**

a <- 200

b <- 33

if (b > a) {

print("b is greater than a")

} else {

print("b is not greater than a")

}

**R While Loop**

Loops can execute a block of code as long as a **specified condition is reached.**

**R has two loop commands:**

**while loops**

**for loops**

**R While Loops**

With the while loop we can execute a set of statements as long as a condition is TRUE:

**Example**

Print i as long as i is less than 6:

i <- 1

while (i < 6) {

print(i)

i <- i + 1

}

Next

With the next statement, we can skip an iteration without terminating the loop:

**Example**

Skip the value of 3:

i <- 0

while (i < 6) {

i <- i + 1

if (i == 3) {

next

}

print(i)

}

**R For Loop**

A for loop is used for iterating over a sequence:

**Example**

**for (x in 1:10) {**

**print(x)**

**}**

**Exampleevery item in a list:**

**fruits <- list("apple", "banana", "cherry")**

**for (x in fruits) {**

**print(x)**

**}**

**Example**

**Print the number of dices:**

**dice <- c(1, 2, 3, 4, 5, 6)**

**for (x in dice) {**

**print(x)**

**}**

**Break**

**With the break statement, we can stop the loop before it has looped through all the items:**

**Example**

**fruits <- list("apple", "banana", "cherry")**

**for (x in fruits) {**

**if (x == "cherry") {**

**break**

**}**

**print(x)**

**}**

**Next**

**With the next statement, we can skip an iteration without terminating the loop:**

**Example**

**Skip "banana":**

**fruits <- list("apple", "banana", "cherry")**

**for (x in fruits) {**

**if (x == "banana") {**

**next**

**}**

**print(x)**

**}**

**R Nested Loops**

**Nested Loops**

**It is also possible to place a loop inside another loop. This is called a nested loop:**

**Example**

**Print the adjective of each fruit in a list:**

**adj <- list("red", "big", "tasty")**

**fruits <- list("apple", "banana", "cherry")**

**for (x in adj) {**

**for (y in fruits) {**

**print(paste(x, y))**

**}**

**}**