

# The art of R

## TM the Great Unread

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# Control structures

Control the flow of execution

By keeping to the programming principle DRY (don't repeat yourself) we can avoid unnecessary complications

*if* (condition), *else*

```
1 x <- 1:5
2 if (sample(x,1) == 5) {
3   print("x is equal to five")
4 } else {
5   print("x is less than five")
6 }
```

*for*

```
1 for (i in 1:5) {
2   print(i)
3 }
4 [1] 1
5 [1] 2
6 [1] 3
7 [1] 4
8 [1] 5
```

*while; repeat; break; next; return*

# Functions

For repeating lines of code

A function is an object that consists of a body, formals, and an environment

```
1 add <- function(a,b){  
2   return(a+b)  
3 }  
4  
5 > body(add)  
6   return(a + b)  
7  
8 > formals(add)  
9 $a  
10  
11 $b  
12  
13 > environment(add)  
14 <environment: R_GlobalEnv>
```

```
#include <stdio.h>
int main(void)
{
    int count;

    for (count = 1; count <= 500; count++)
        printf("I will not throw paper airplanes in class.");

    return 0;
}
```

MOO 11-5

