

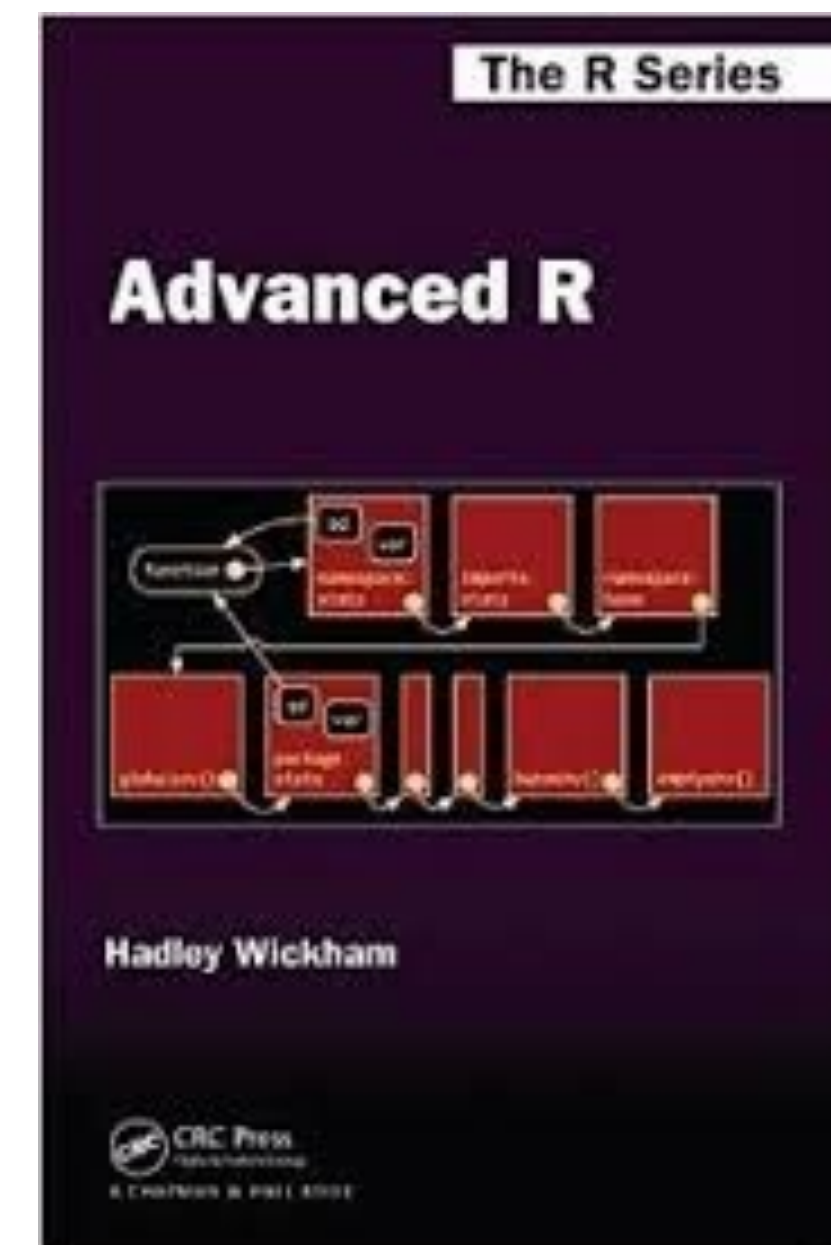
LAZY EVALUATION

R functions perform “lazy” evaluation in which arguments are only evaluated if required in the body of the function

```
lazy <- function(x, y = NULL) {  
  if(!is.null(y)) {  
    return(x * 2 + y)  
  }  
  x * 2  
}
```

```
lazy(4)  
[1] 8  
lazy(4, 1)  
[1] 9
```

This allows us to only evaluate arguments if inputs are included.



LEXICAL SCOPING RULES

R functions will first look inside the function to identify all variables being called. If variables do not exist R will look one level up.

```
y <- 2
scoping <- function(x) {
  if(!is.null(y)) {
    return(x * 2 + y)
  }
  x * 2
}
```

```
scoping(4)
[1] 10
```

This is useful when you start to embed functions within functions.

