

Lecture 7

Recap: function scoping

- Variables created within a function don't exist outside
- If a variable is not defined in a function, R looks outside the function
- Names defined inside a function *mask* names defined outside a function

What will happen?

```
1 x <- 10
2
3 g02 <- function(x){
4   x <- x + 1
5   return(x)
6 }
7
8 g02(x)  ← 11
9 x + 1   ← 10 + 1 => 11
```

What will happen?

```
1 x <- 10
2
3 g02 <- function(x){
4   x <- x + 1
5   return(x)
6 }
7
8 g02(x)
```

```
[1] 11
```

```
1 x + 1
```

```
[1] 11
```

What will happen?

```
1 x <- 10
2
3 g02 <- function(x){
4   x <- x + 1
5   return(x)
6 }
7
8 x <- g02(x)
9 x + 1
```

Store
in x

After line 8, we have changed value of x to 11)

What will happen?

```
1 x <- 10
2
3 g02 <- function(x){
4   x <- x + 1
5   return(x)
6 }
7
8 x <- g02(x)
9 x + 1
```

[1] 12

What will happen?

```
1 g02 <- function(y){  
2   y <- y - 1  
3   return(y)  
4 }  
5  
6 g02(g02(20))
```

19
g02(19)

⇓
18

What will happen?

```
1 g02 <- function(y){  
2   y <- y - 1  
3   return(y)  
4 }  
5  
6 g02(g02(20))
```

```
[1] 18
```


