

# repeat

Repeat initiates an infinite loop; these are not commonly used in statistical applications but they do have their uses. The only way to exit a `repeat` loop is to call `break`.

```
x0 <- 1
tol <- 1e-8

repeat {
  x1 <- computeEstimate()

  if(abs(x1 - x0) < tol) {
    break
  } else {
    x0 <- x1
  }
}
```

# repeat

The loop in the previous slide is a bit dangerous because there's no guarantee it will stop. Better to set a hard limit on the number of iterations (e.g. using a for loop) and then report whether convergence was achieved or not.

# next, return

`next` is used to skip an iteration of a loop

```
for(i in 1:100) {  
    if(i <= 20) {  
        ## Skip the first 20 iterations  
        next  
    }  
    ## Do something here  
}
```

`return` signals that a function should exit and return a given value

# Control Structures

## Summary

- Control structures like `if`, `while`, and `for` allow you to control the flow of an R program
- Infinite loops should generally be avoided, even if they are theoretically correct.
- Control structures mentioned here are primarily useful for writing programs; for command-line interactive work, the `*apply` functions are more useful.