

Debugging

Computing for Data Analysis

Something's Wrong!

Indications that something's not right

- `message`: A generic notification/diagnostic message produced by the `message` function; execution of the function continues
- `warning`: An indication that something is wrong but not necessarily fatal; execution of the function continues; generated by the `warning` function
- `error`: An indication that a fatal problem has occurred; execution stops; produced by the `stop` function
- `condition`: A generic concept for indicating that something unexpected can occur; programmers can create their own conditions

Something's Wrong!

Warning

```
> log(-1)
```

```
[1] NaN
```

Warning message:

```
In log(-1) : NaNs produced
```

Something's Wrong

```
printmessage <- function(x) {  
  if(x > 0)  
    print("x is greater than zero")  
  else  
    print("x is less than or equal to zero")  
  invisible(x)  
}
```

Something's Wrong

```
printmessage <- function(x) {  
  if(x > 0)  
    print("x is greater than zero")  
  else  
    print("x is less than or equal to zero")  
  invisible(x)  
}  
> printmessage(1)  
[1] "x is greater than zero"  
> printmessage(NA)  
Error in if (x > 0) { : missing value where TRUE/FALSE needed
```

Something's Wrong!

```
printmessage2 <- function(x) {  
  if(is.na(x))  
    print("x is a missing value!")  
  else if(x > 0)  
    print("x is greater than zero")  
  else  
    print("x is less than or equal to zero")  
  invisible(x)  
}
```

Something's Wrong!

```
printmessage2 <- function(x) {  
  if(is.na(x))  
    print("x is a missing value!")  
  else if(x > 0)  
    print("x is greater than zero")  
  else  
    print("x is less than or equal to zero")  
  invisible(x)  
}  
  
> x <- log(-1)  
Warning message:  
In log(-1) : NaNs produced  
> printmessage2(x)  
[1] "x is a missing value!"
```