

# WHEN TO WRITE FUNCTIONS

```
df <- data.frame(  
  a = rnorm(10),  
  b = rnorm(10),  
  c = rnorm(10),  
  d = rnorm(10)  
)  
  
df$a <- (df$a - min(df$a, na.rm = TRUE)) /  
  (max(df$a, na.rm = TRUE) - min(df$a, na.rm = TRUE))  
df$b <- (df$b - min(df$b, na.rm = TRUE)) /  
  (max(df$a, na.rm = TRUE) - min(df$b, na.rm = TRUE))  
df$c <- (df$c - min(df$c, na.rm = TRUE)) /  
  (max(df$c, na.rm = TRUE) - min(df$c, na.rm = TRUE))  
df$d <- (df$d - min(df$d, na.rm = TRUE)) /  
  (max(df$d, na.rm = TRUE) - min(df$d, na.rm = TRUE))
```

You should consider writing a function whenever you've copied and pasted a block of code more than twice.

Can you spot the error?

# WHEN TO WRITE FUNCTIONS

```
df <- data.frame(  
  a = rnorm(10),  
  b = rnorm(10),  
  c = rnorm(10),  
  d = rnorm(10)  
)  
  
df$a <- (df$a - min(df$a, na.rm = TRUE)) /  
  (max(df$a, na.rm = TRUE) - min(df$a, na.rm = TRUE))  
df$b <- (df$b - min(df$b, na.rm = TRUE)) /  
  (max(df$a, na.rm = TRUE) - min(df$b, na.rm = TRUE))  
df$c <- (df$c - min(df$c, na.rm = TRUE)) /  
  (max(df$c, na.rm = TRUE) - min(df$c, na.rm = TRUE))  
df$d <- (df$d - min(df$d, na.rm = TRUE)) /  
  (max(df$d, na.rm = TRUE) - min(df$d, na.rm = TRUE))
```

You should consider writing a function whenever you've copied and pasted a block of code more than twice.

Can you spot the error?