

*Introduction to*

# FUNCTIONS

*Part 1*

```
function (<arguments>) {  
    ## do stuff  
}
```

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    ## do stuff  
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    ## do stuff  
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```
function (<arguments>) {  
    ## do stuff  
}
```

```
function (<arguments>) {  
    ## do stuff  
    return(<object>)  
}
```

*let's write a*

range

*function*



```
range2 <- function(x) {  
  min <- min(x)  
  max <- max(x)  
  return(c(min, max))  
}
```



```
range4 <- function(x) {  
  min <- min(x)  
  max <- max(x)  
}
```

What will this return?

*let's write a*

last element

*function*

ARGUMENTS

```
add_two_values <-  
  function(a, b) {  
    a + b  
  }
```

```
add_two_values <-  
  function(a, b) {  
    a + b  
  }
```

```
add_two_values <-  
  function(a, b = 5) {  
    a + b  
  }
```



```
write.table(x, file = "", append = FALSE, quote = TRUE,  
  sep = " ", eol = "\n", na = "NA", dec = ".",  
  row.names = TRUE, col.names = TRUE,  
  qmethod = c("escape", "double"), fileEncoding = "")
```

What is required?

```
auc_partial(idv, dv, range = c(0, Inf))
```

What is required?

*let's write a*

nonmem output

*function*

What do you do about **all** the  
**additional arguments?**





```
write_nonmem(x = data,  
             file = "data.csv",  
             append=TRUE,  
             eol = "\r\n")
```

## ■■■ caveats

1. Only one ... per function
2. no 'default' ... values
3. arguments after ... in a function **MUST** be matched by full name



```
write_nonmem(na = "NA",  
             data,  
             file = "data.csv")
```

How does R **match arguments**?

# Argument matching order

1. Exact match for named argument
2. Partial matches for named argument
3. Positional match
4. Put everything else into ...

*let's write a*

bql replacer

*function*