

Functions in R

(STATS240.1: A short course in R)

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Introduction to functions in R

A function is a collection of commands, e.g.

```
testfun<-function(x){  
  return(x*x)  
}
```

This can then be called with an argument,

```
testfun(3)  
testfun(25)  
testfun(x)
```

Functions in command files

Normally functions are defined in command files.

Example: Suppose the file `cmd.r` contains the following lines:

```
f<-function(x){  
  y<-x+2  
  s<-sum(y)  
  return(s)  
}
```

The following describes a typical use of this function

```
> source("cmd.r")  
> f(2)
```

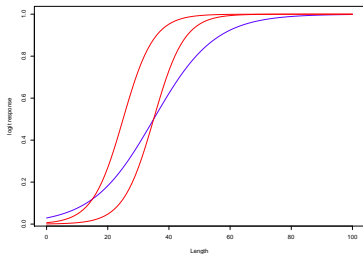
Plotting functions

Functions are commonly used for plotting

```
f<-function(x, a, b){  
  y<-1/(1+exp(-b*(x-a)))  
}
```

Use `source("function.r")` and

```
source("function.r")  
x<-0:100  
y1<-f(x, 35, .1)  
y2<-f(x, 35, .2)  
y3<-f(x, 25, .2)  
plot(x, y1, type='l', col="blue", xlab="Length", ylab="logit response")
```



Run commands

- Commonly define functions in one file
- Often have one file for initialization
- Usually have a another file which contains **all** other commands