



FOUNDATIONS OF FUNCTIONAL PROGRAMMING WITH PURRR

How to purrr safely()

Auriel Fournier
Instructor



safely()

```
a <- list("unknown", 10) %>%  
  map(safely(function(x)  
    x * 10,  
    otherwise = NA_real_))
```

```
[[1]]  
[[1]]$result  
[1] NA  
[[1]]$error  
<simpleError in x * 10: non-numeric  
argument to binary operator>
```

```
[[2]]  
[[2]]$result  
[1] 100  
[[2]]$error  
NULL
```



Reordering

```
a <- list("unknown", 10) %>%
  map(safely(function(x)
    x * 10,
    otherwise = NA_real_)) %>%
  transpose()

$result
$result[[1]]
[1] NA
$result[[2]]
[1] 100

$error
$error[[1]]
<simpleError in x * 10:
non-numeric argument to
binary operator>
$error[[2]]
NULL
...
```



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Another way to possibly() purrr

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safely() then possibly()

```
a <- list(-10, "unknown", 10) %>%  
  map(safely(function(x)  
    x * 10,  
    otherwise = NA_real_))
```

```
a
```

```
[[1]]  
[[1]]$result  
[1] -100  
[[1]]$error  
NULL  
  
[[2]]  
[[2]]$result  
[1] NA  
[[2]]$error  
<simpleError in x * 10: non-numeric  
argument to binary operator>  
  
[[3]]  
[[3]]$result  
[1] 100  
[[3]]$error  
NULL
```



possibly()

```
a <- list(-10, "unknown", 10) %>%  
  map(possibly(function(x)  
    x * 10,  
    otherwise = NA_real_))
```

a

```
[[1]]  
[1] -100
```

```
[[2]]  
[1] NA
```

```
[[3]]  
[1] 100
```



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purrr is a walk() in the park

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Instructor



Why walk()?

```
short_list <- list(-10, 1, 10)
```

```
short_list
```

```
[[1]]  
[1] -10
```

```
[[2]]  
[1] 1
```

```
[[3]]  
[1] 10
```

```
walk(short_list, print)
```

```
[1] -10  
[1] 1  
[1] 10
```

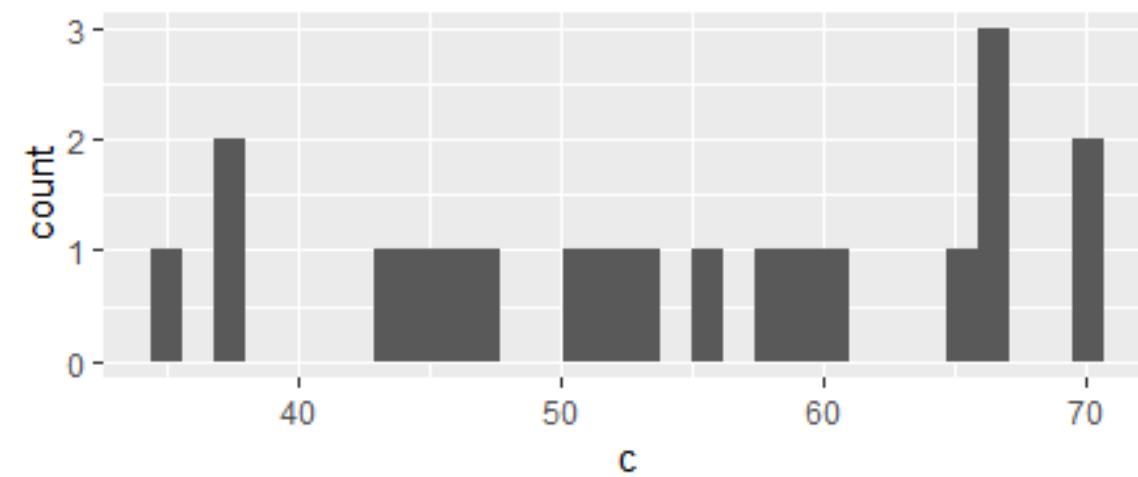
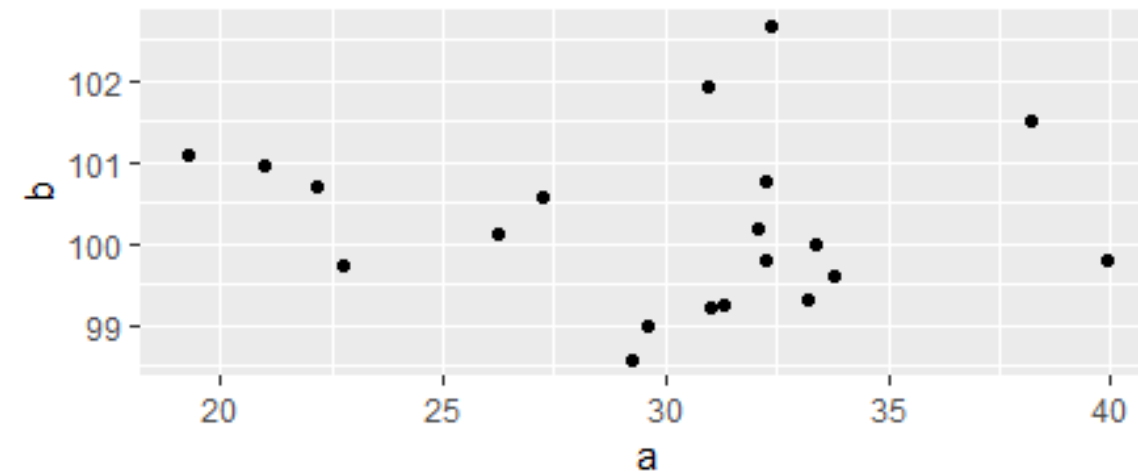


Plots, the normal way

```
plista
```

```
[[1]]
```

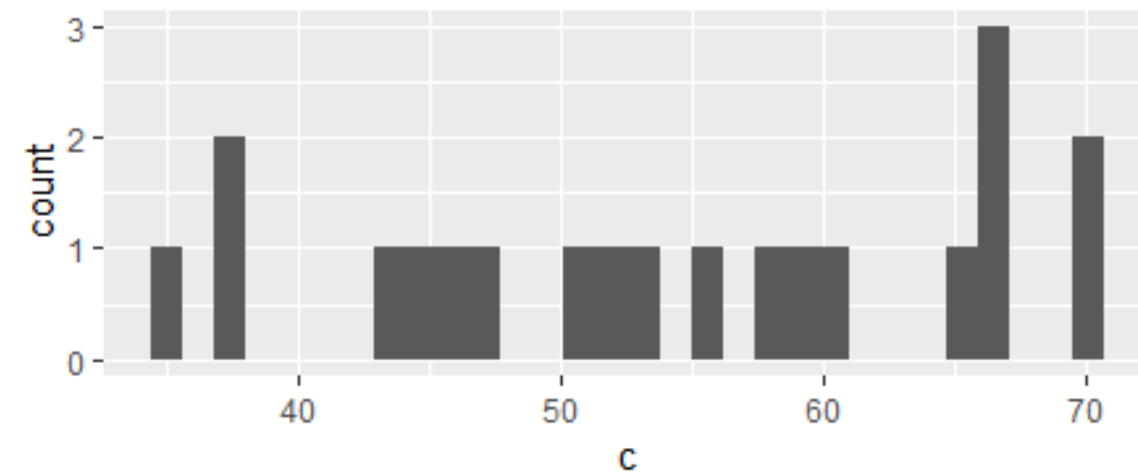
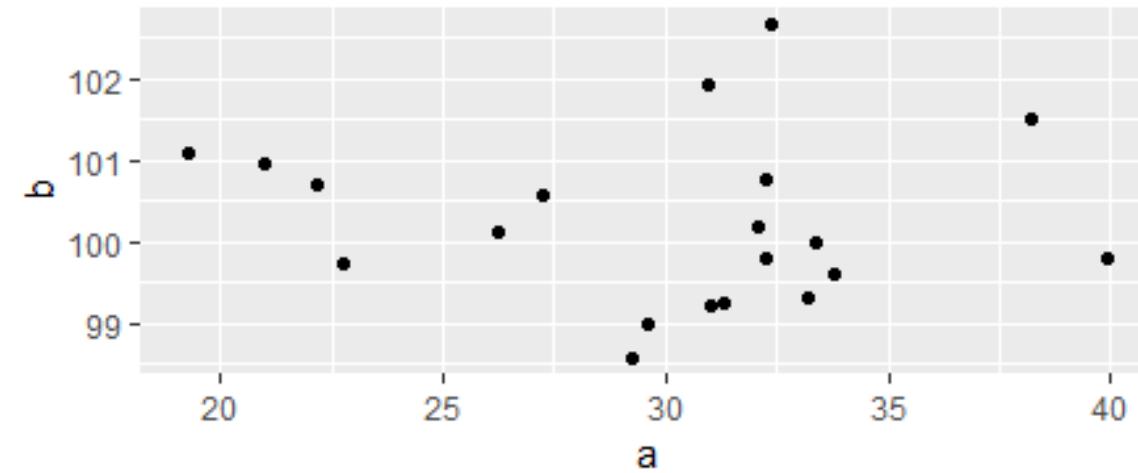
```
[[2]]
```





walk() with plots

```
walk(plist, print)
```





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