



INTRODUCTION TO R

Subsetting Vectors

Subset by index

```
> remain <- c(spades = 11, hearts = 12,  
             diamonds = 11, clubs = 13)
```

[1] -> take element at index 1
result is a (named) vector too!

```
> remain[1]  
spades  
  11
```

```
> remain[3]  
diamonds  
  11
```

Subset by name

```
> remain <- c(spades = 11, hearts = 12,  
              diamonds = 11, clubs = 13)
```

```
> remain["spades"]  
spades  
    11
```

```
> remain["diamonds"]  
diamonds  
    11
```

Subset multiple elements

```
> remain <- c(spades = 11, hearts = 12,  
             diamonds = 11, clubs = 13)
```

```
> remain_black <- remain[c(1, 4)]
```

```
> remain_black  
spades  clubs  
    11    13
```

order in selection vector matters!

```
> remain[c(4, 1)]
```

```
clubs spades  
   13    11
```

```
> remain[c("clubs", "spades")]
```

```
clubs spades  
   13    11
```

Subset all but some

```
> remain <- c(spades = 11, hearts = 12,  
             diamonds = 11, clubs = 13)
```

```
> remain[-1]
```

```
hearts diamonds clubs  
    12      11    13
```

All but index 1 are returned

```
> remain[-c(1, 2)]
```

```
diamonds clubs  
    11     13
```

```
> remain[-"spades"]
```

```
Error in -"spades" : invalid argument to unary operator
```

Subset using logical vector

```
> remain <- c(spades = 11, hearts = 12,  
             diamonds = 11, clubs = 13)  
  
> remain[c(FALSE, TRUE, FALSE, TRUE)]  
hearts clubs  
   12    13  
  
> selection_vector <- c(FALSE, TRUE, FALSE, TRUE)  
> remain[selection_vector]  
hearts clubs  
   12    13
```

Subset using logical vector

```
> remain <- c(spades = 11, hearts = 12,
              diamonds = 11, clubs = 13)

> remain[c(TRUE, FALSE)]
  spades diamonds
      11      11
R recycles c(T, F) to c(T, F, T, F)

> remain[c(TRUE, FALSE, TRUE, FALSE)]
  spades diamonds
      11      11

> remain[c(TRUE, FALSE, TRUE)]
  spades diamonds clubs
      11      11    13

> remain[c(TRUE, FALSE, TRUE, TRUE)]
  spades diamonds clubs
      11      11    13
```



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Let's practice!