



INTRODUCTION TO R

Subsetting Matrices

Subset element

```
> m <- matrix(sample(1:15, 12), nrow = 3)
```

```
> m
```

	[,1]	[,2]	[,3]	[,4]
[1,]	5	11	15	3
[2,]	12	14	8	9
[3,]	6	1	4	2

```
> m[1,3]
```

```
[1] 15
```

```
> m[3,2]
```

```
[1] 1
```

Subset column or row

```
> m[3,]  
[1] 6 1 4 2  
  
> m[,3]  
[1] 15 8 4  
  
> m[4]  
[1] 11  
  
> m[9]  
[1] 4
```

```
> m  
      [,1] [,2] [,3] [,4]  
[1,]    5   11   15    3  
[2,]   12   14    8    9  
[3,]    6    1    4    2
```

Subset multiple elements

```
> m[c(2, 3)]  
[1] 14 8
```

```
> m[c(1, 2), c(2, 3)]  
      [,1] [,2]  
[1,]  11  15  
[2,]  14   8
```

```
> m[c(1, 3), c(1, 3, 4)]  
      [,1] [,2] [,3]  
[1,]   5  15   3  
[2,]   6   4   2
```

```
> m  
      [,1] [,2] [,3] [,4]  
[1,]    5  11  15   3  
[2,]   12  14   8   9  
[3,]    6   1   4   2
```

Subset by name

```
> rownames(m) <- c("r1", "r2", "r3")
> colnames(m) <- c("a", "b", "c", "d")
> m
```

	a	b	c	d
r1	5	11	15	3
r2	12	14	8	9
r3	6	1	4	2

```
> m[2,3]
[1] 8
```

```
> m["r2", "c"]
[1] 8
```

```
> m[2, "c"]
[1] 8
```

```
> m[3, c("c", "d")]
c d
4 2
```

Subset with logical vector

```
> m[c(FALSE, FALSE, TRUE),  
     c(FALSE, FALSE, TRUE, TRUE)]
```

```
c d  
4 2
```

```
> m[c(FALSE, FALSE, TRUE),  
     c(FALSE, TRUE)]
```

```
b d  
1 2
```

```
> m[c(FALSE, FALSE, TRUE),  
     c(FALSE, TRUE, FALSE, TRUE)]
```

```
b d  
1 2
```

```
> m  
      a  b  c d  
r1    5 11 15 3  
r2   12 14  8 9  
r3    6  1  4 2
```



INTRODUCTION TO R

Let's practice!