



## 1. End as a subscript

To access the last element of a matrix along a given dimension, use end as a subscript. This allows you to go to the final element without knowing in advance how big the matrix is. For example:

```
>> q = 4:10
```

```
q=  
4 5 6 7 8 9 10
```

```
>> q(end)
```

```
ans = 10
```

```
>> q(end-4:end)
```

```
ans = 6 7 8 9 10
```

```
>> q(end-2:end)
```

```
ans = 8 9 10
```

This technique works for two-dimensional matrices as well:

```
>> q = [1 2 3;4 5 6;7 8 9]
```

```
q=  
1 2 3  
4 5 6  
7 8 9
```

```
>> q(end,end)
ans = 9
```

```
>> q(2,end-1:end)
ans =
5 6
```

```
>> q(end-2:end,end-1:end)
ans =
2 3
5 6
8 9
```

```
>> q(end-1,:)
ans =
4 5 6
7 8 9
```

## 2. Transpose

To convert rows into columns use the transpose symbol ' :

```
>> q'
ans =
1 4 7
2 5 8
3 6 9
```

```
>> b = [[1 2 3]' [4 5 6]']
```

```
b=
```

```
1 4
```

```
2 5
```

```
3 6
```

## 1. Deleting Rows or Columns

To get rid of a row or column set it equal to the empty matrix [].

```
>> a = [1 2 3; 4 5 6; 7 8 9]
```

```
a=
```

```
1 2 3
```

```
4 5 6
```

```
7 8 9
```

```
>> a(:,2) = []
```

```
a=
```

```
1 3
```

```
4 6
```

```
7 9
```