MATLAB
Vectors and matrices
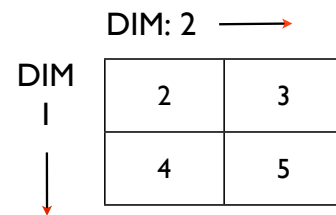

Matrices `>> w=[2 3; 4 5]`

DIM: 2 ⟶

DIM 1 ↓

2	3
4	5

Matrices `>> w=[2 3; 4 5]`

DIM: 2 ⟶

DIM 1 ↓

2	3
4	5

```
>> sum(w)
6       8
```

Matrices `>> w=[2 3; 4 5]`

DIM: 2 ⟶

DIM 1 ↓

2	3
4	5

```
>> sum(w, 2)
5
9
```
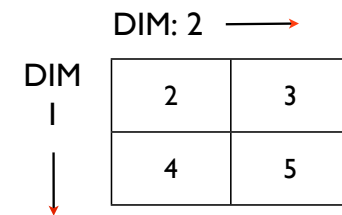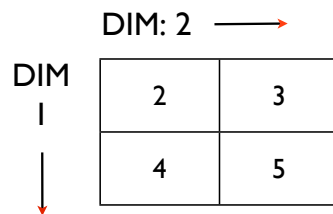
Example: SST

data, a [5 x 12] matrix with one row per site, columns are monthly temperature

```
>> data(:,1)
  13   14   13   13   14
```

% 1st measurement each site

Example: SST

data, a [5 x 12] matrix with one row per site, columns are monthly temperature

```
>> data(1,:)
13  14  14  16  17  18...
    18  17  20  16  15  13
```

% all measurements for site 1

Example: SST

data: one row per site, columns are monthly temperature

```
>> mean(data)
 13.4    13.6    14.4    14.4 ...
16.0    17.2    15.8 16.0 ...
19.6    16.8    16.0    13.0
```

% temperature average at each time, across the 5 sites

Example: SST

data: one row per site, columns are monthly temperature

```
>> mean(data,2)
      15.9167
      15.4167
      15.3333
      15.3333
      15.5833
```

% time-mean temperature at each site

Review

- Matrices are like tables filled with numbers.

- The number of rows is the length of the first dimension. The number of columns is the length of the second dimension.