## 1) Mean vector

Compute mean of each dimension.

So the mean vector is

## 2) Sample variances and covariance (use denominator )

Compute deviations and products for each sample:

| sample |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 2 |  |  |  |  |  |
| 2 | 3 | 3 |  |  |  |  |  |
| 3 | 5 | 7 |  |  |  |  |  |

Now sum the columns:

* Sum of =
* Sum of =
* Sum of =

Now divide by :

## 3) Final sample covariance matrix

If you’d like, I can also compute the sample correlation matrix or plot the three points with the mean shown. Which would you prefer?