



Matrices are 2-dimensional arrays:

The above matrix has four rows and three columns, so it is a 4×3 matrix.

A vector is a matrix with one column and many rows:

So vectors are a subset of matrices. The above vector is a 4×1 matrix.

- A_{ij} refers to the element in the i th row and j th column of matrix A .
- A vector with ' n ' rows is referred to as an ' n '-dimensional vector.
- v_i refers to the element in the i th row of the vector.
- In general, all our vectors and matrices will be 1-indexed. Note that for some programming languages, the arrays are 0-indexed.
- Matrices are usually denoted by uppercase names while vectors are lowercase.
- "Scalar" means that an object is a single value, not a vector or matrix.
- \mathbb{R} refers to the set of scalar real numbers.
- \mathbb{R}^n refers to the set of n -dimensional vectors of real numbers.

Run the cell below to get familiar with the commands in Octave/Matlab. Feel free to create matrices and vectors and try out different things.

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