Matrix Creation Functions

Created by MathWorks for Structural Dynamics

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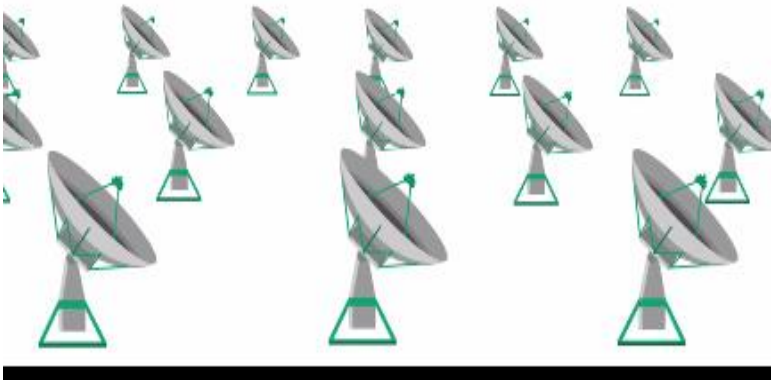

As the amount of data we collect grows will need to create some large matrices to perform calculations with the data.

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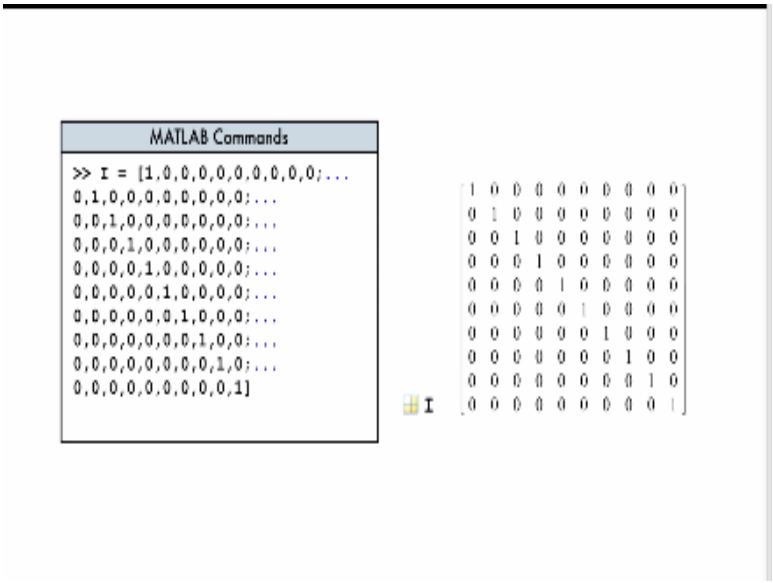

For example, we could create this 10 by10 identity matrix like so, but who wants to do that.

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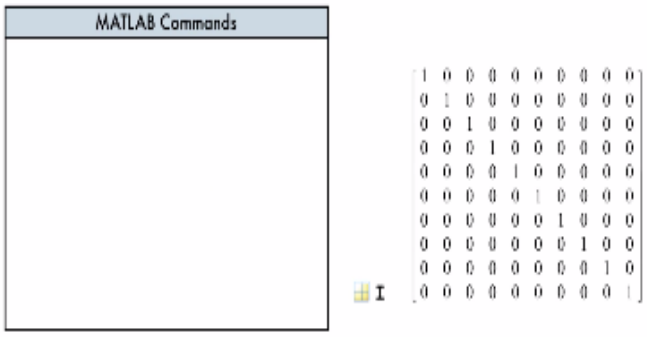

Fortunately there is a better way.

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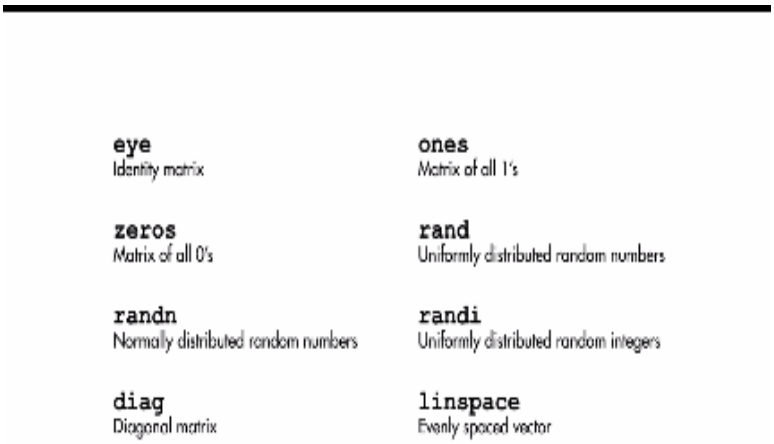

Functions to create many common matrices are included in MATLAB.

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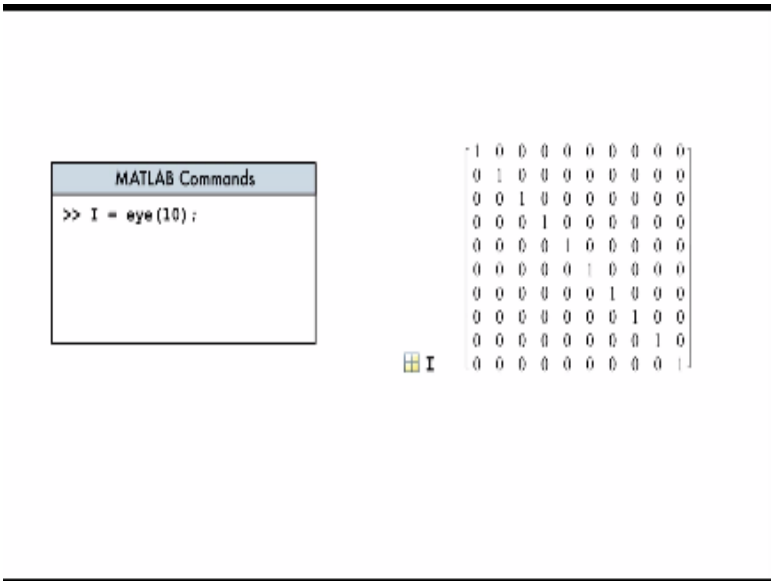

So to create an identity matrix we use the I function like this, the input variable specifies the size of the square matrix and bingo there is our 10 by 10 identity matrix, you can also use functions to initialize matrices.

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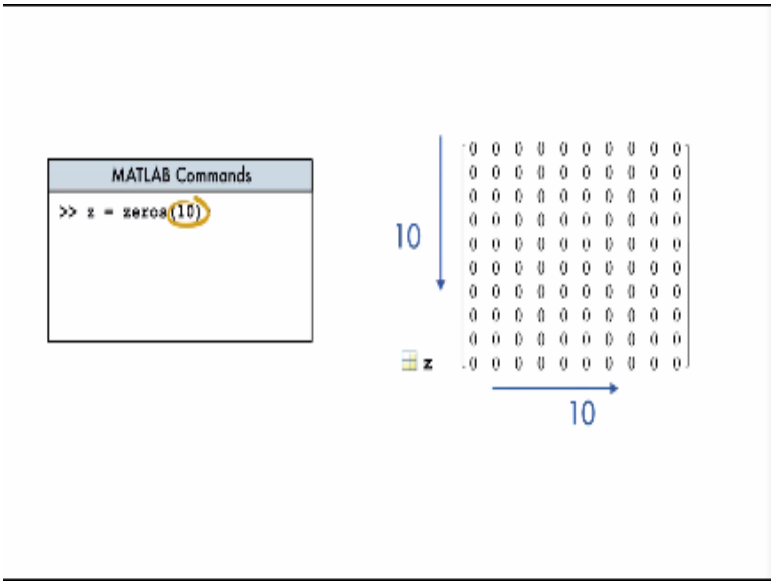

For example, the zeros function creates a matrix of well zero. Notice that when using a single input the result is a square matrix here 10 rows and 10 columns.

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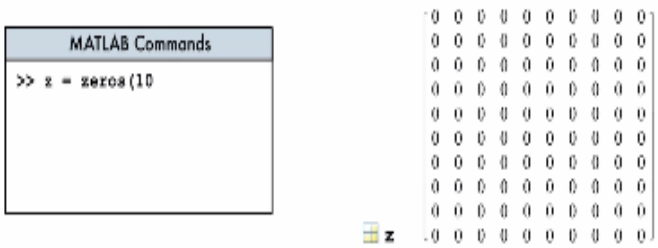

But what if we need a rectangular matrix no problem we use 2 input arguments instead of one.

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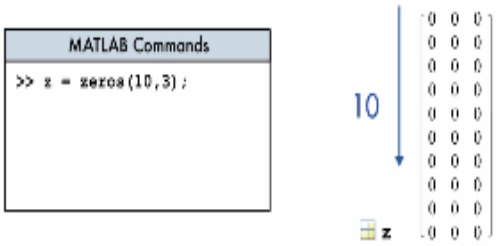

The first input specifies the number of rows.

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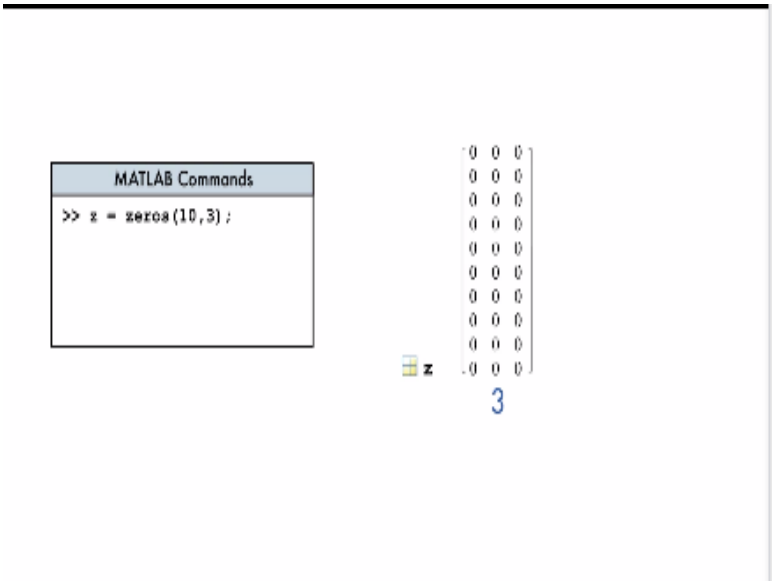

And the second input the number of columns.

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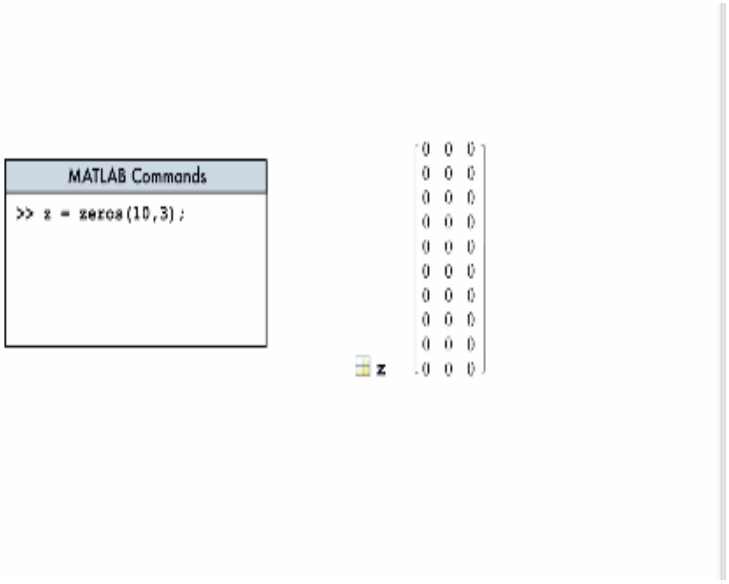

We can use the exact same syntax with the ones function.

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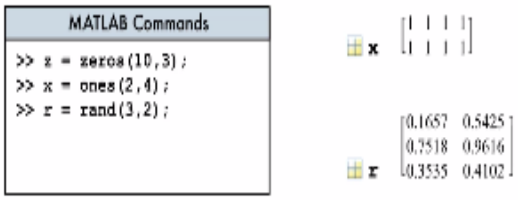

And rand function which creates a matrix of random numbers.

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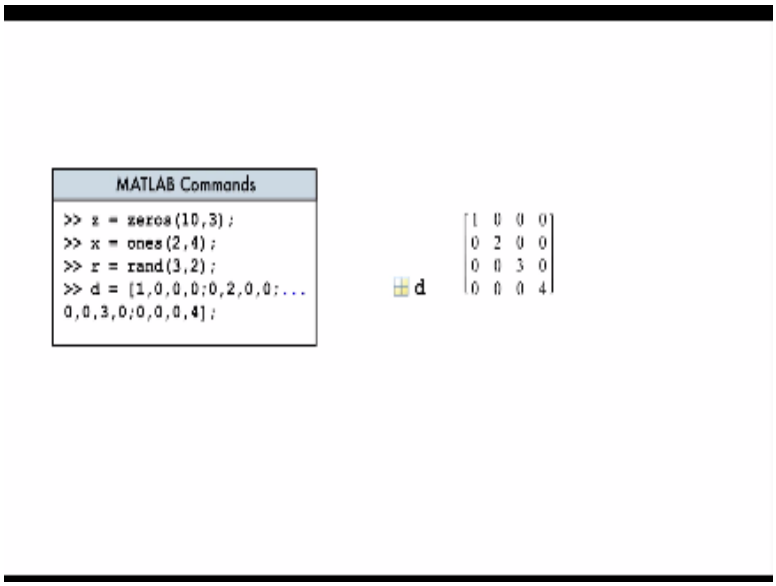

So the next time you find yourself entering a large matrix.

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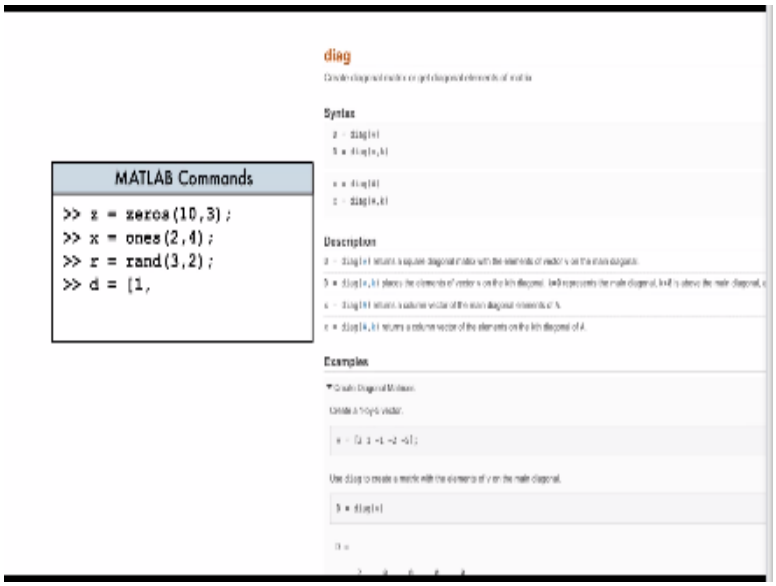

Check the MATLAB documentation first to see if there is a function to do the job.

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