TI-82 Matrix Toolbox

Remember: <3> means to select number three from the menu and <Edit> means to select `Edit` from the menu. When we use the arrows to select items from a menu, we usually must [ENTER]. Also, [2nd] [QUIT] means to press [2nd] [MODE] to access QUIT.

To enter a matrix:

Press [MATRX]. Since we want to enter new data (or change old data) we want to `EDIT`. Press [►][►] to highlight the `EDIT` menu. Use the arrows to select the matrix that you wish to enter or change, then [ENTER]. The first line tells us the name of the matrix we've selected and the current size of the matrix in rows × columns format. The cursor is flashing over the number of rows. Press the number of rows you want, then [ENTER], followed by the number of columns you want, then [ENTER]. The cursor moves to the first row, first column element of the matrix. In the lower left hand corner of the screen is `1,1=0`. The TI-82 is telling us that the first row, first column element is `0`. Type in each of the elements of the matrix, followed by [ENTER]. The TI-82 automatically moves to the next element in the row (or to the next row down) when you press [ENTER]. When you finish entering the matrix, be sure to [ENTER] after the last element, then [2nd] [QUIT].

You must [2nd] [QUIT] or the calculator will try to paste whatever you do next into the last row, last column of your matrix.

To display a matrix on the home screen:

Press [MATRX]. The `NAMES` menu is highlighted. We want to use the name of the matrix on the home screen. Use [▼] to highlighted the name of the matrix you want, then [ENTER]. The symbol for the matrix is then moved to the home screen. To see the matrix, [ENTER]. You may have to use [►] to scroll over to see the right side of your matrix.

To calculate with a matrix or matrices:

Access the matrix name when you need to in an equation. For example, to compute the matrix product $\mathbf{A}^{-1}\mathbf{B}$, the key sequence would be [MATRX] <NAMES> <A> [x^{-1}] [MATRX] <NAMES> <B>, then [ENTER].