Creating Vector Fields

The Formatting is basically the same as creating a 3-D graph but a little different, The First 2 lines are the same but instead of defining f(x,y) and M we define the x and y components of the vector field.
For example in the case of gradient fields for the two array elements: $X_{i,j}$ is $\partial f/\partial x$ and $Y_{i,j}$ is $\partial f/\partial y$. We Plot (X,Y) in the placeholder.

But this is the same for any vector field (2space only)

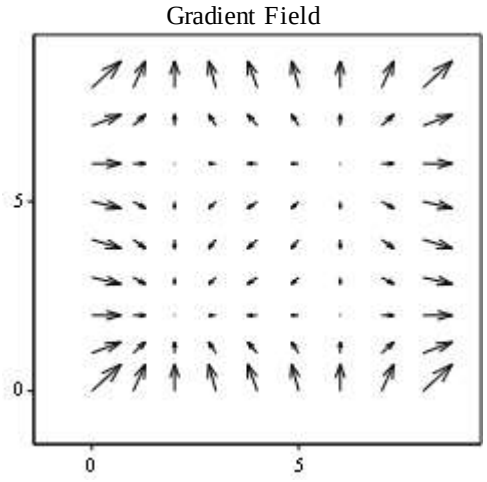
Even though we get a vector field plot in the plane we still use the 3D Surface Plot

In the FORMAT window under GENERAL we choose VECTOR FIELD PLOT instead of Surface Plot

$a := -2 \quad b := 2 \quad c := -2 \quad d := 2 \quad \Delta x := .5 \quad \Delta y := .5$

$i := 0..\frac{b-a}{\Delta x} \quad j := 0..\frac{d-c}{\Delta y} \quad x_i := a + i\cdot\Delta x \quad y_j := c + j\cdot\Delta y$

$X_{i,j} := 3\cdot(x_i)^2 - 3 \quad Y_{i,j} := 3\cdot(y_j)^2 - 3$



(X, Y)

Make sure to use the parentheses.