**PROCESSING OF SIGNALS TO CREATE A 3D PLOT AND TO CARRY OUT MATRIX OPERATIONS**

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The projects aims to portray two cases wherein a few manipulations on a signal gives a 3D plot and an intensity plot whereas in the second case a few mathematical operations on matrices are carried out with the help of a global variable and local variable.

CASE 1:

PLOTTING OF SIGNALS

1. A sine wave is manually created and the output is convoluted with a subVI which contains a manually created cosine wave.
2. This output is plotted as a 3D surface graph and also as intensity plots.
3. In order to write the output data to spreadsheet files, a file path is given and a folder is listed in order to build a path. The number of iterations are converted into a decimal string and the output is concatenated to be written into an excel file.
4. This is given as an input to the scan file object, which searches for a specific data or string in the path specified

CASE 2:

MATRIX OPERATIONS

1. In order to plot both the cases a tab control is created along with the case structure loop.
2. A few matrix manipulations are carried out like finding the square of each element and the transpose and incrementing each element in the array, this is stored into a subVI. These matrix operations are converted into an array.
3. A global variable is defined which consists of an array.
4. Both of the above stated arrays are given to the build array operations which gives an output of an appended array.
5. A while loop is also specified wherein if the tab control does not equal to that particular case, here matrix case then the loop stops. These operations are defined with a local variable.