1. **Plotting Graph Signals:**
2. Define a signal on a graph, which is characterized by the adjacency matrix. Where and. Now create a MATLAB function to plot this 2D graph signal.
3. Generalize the above code and define an arbitrary signal (generate a random sequence of particular range) on the graph plotted in Bucky ball example.
4. **GFT Synthesis and Analysis:**
5. Compute GFT, of a graph signal, defined on a graph in question 1. Let the eigenvector matrix is, then,

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And compute the inverse transformation from the coefficients using

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Write and verify the property of eigenvector matrix.

1. Repeat question 3 for the following signals defined on the graph in Bucky ball example
2. Where.
3. Where 2.
4. Calculate the sparsity order for GFT coefficient vectors of the above signals.