Welcome Isaac
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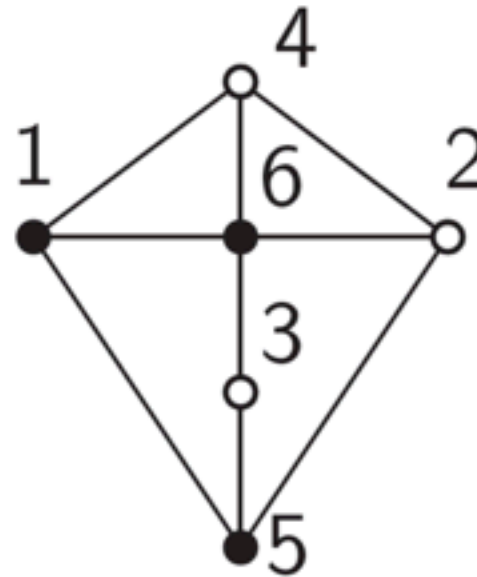Back
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Problem Wk.4.1.3: Kite graph code
(Due: Sun, Mar 4 11 PM)

Consider the 6-qubit graph code $C(G, \{000000, 011100\})$ with G being this "kite" graph:
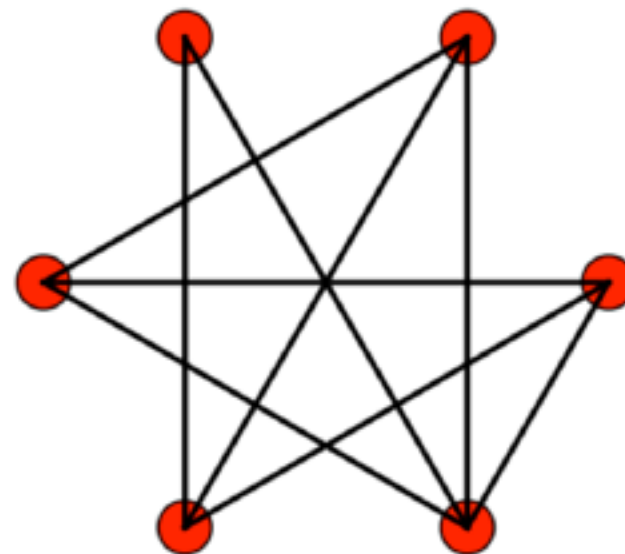

Note that the nodes with the Z operations applied, corresponding to the one's in 011100, are the nodes labeled 2, 3, 4 in the diagram above. Thus, if we number the qubits starting from 1 on the left of each Pauli operator string, the codewords are $|G\rangle$ and $\mathtt{IZZZII}|G\rangle$.

1. What are the stabilizers for G? Enter your response as a list of stabilizers, eg of the form [XI,IX]. Use the labeling indicated above:

   [XIIZZZ,IXIZZZ,IIXIZZ,ZZIXIZ,ZZZIXI,ZZZZIX]

   Your response: [XIIZZZ,IXIZZZ,IIXIZZ,ZZIXIZ,ZZZIXI,ZZZZIX]

   Your stabilizer generator set corresponds to this graph state:

   is **correct**. A valid answer is: [XIIZZZ,IXIZZZ,IIXIZZ,ZZIXIZ,ZZZIXI,ZZZZIX]]
   ✓