1. **Identify if the following is a tree or not a tree. Then give your reasons.** 
   1. Not a tree, it has a cycle.
   2. A tree, it has no cycle.
   3. Not a tree, it has a cycle.
   4. Not a tree, it has a cycle.
   5. Not a tree, it has a cycle.
2. **Given the number of vertices, create a tree.** 
   1. A tree with 7 vertices

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* 1. A tree with 5 vertices

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* 1. A tree with 8 vertices

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1. **Solve the number of edges given the number of vertices.** 
   1. A tree with 10 vertices. How many edges does this tree have? **10 – 1 = 9**
   2. A tree with 12 vertices. How many edges does this tree have? **12 – 1 = 11**
   3. A tree with 15 vertices. How many edges does this tree have? **15 – 1 = 14**
2. **Given the following nodes of a binary tree, rearrange these nodes to form a binary search tree (BST). Draw your tree.** 
   1. 40,30,50,20,35,45,60,15,25,32,38,55,70

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* 1. 25,20,30,15,22,27,35,10,18,21,23,26,28,33,40

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* 1. 60,40,80,30,50,70,90,20,35,45,55,65,75,85,100

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* 1. 70,50,90,40,60,80,100,30,45,55,65,75,85,95,110

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1. **Compute the number of internal nodes of the following full binary trees given the nodes, then draw your trees.**
   1. 9 nodes

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* 1. 13 nodes

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* 1. 15 nodes

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* 1. 17 nodes

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