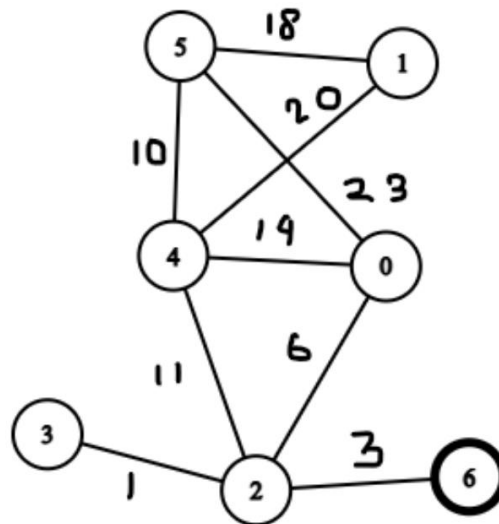
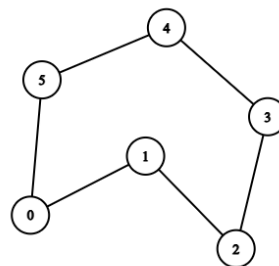


Funni exam thingy

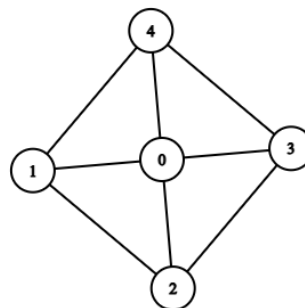
1. A medical test for a certain disease has a 95% accuracy rate. If 1% of the population has the disease, what is the probability that a person who tests positive actually has the disease?
2. Use Dijkstra's Algorithm to find the most efficient path from node 6 to 1, show your process!



3. Determine if the graphs below are bipartite or not!



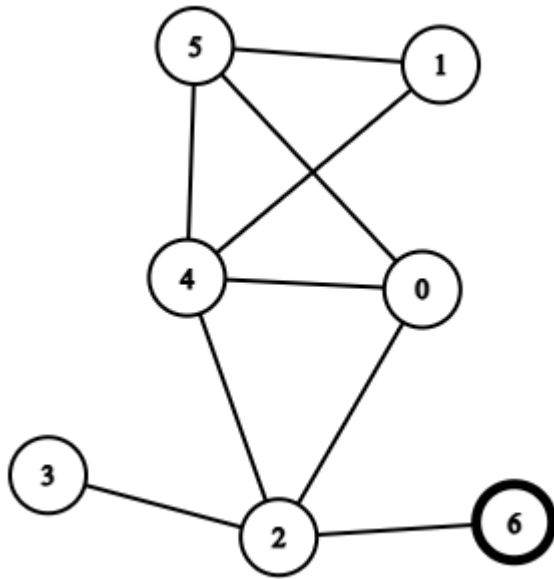
a.



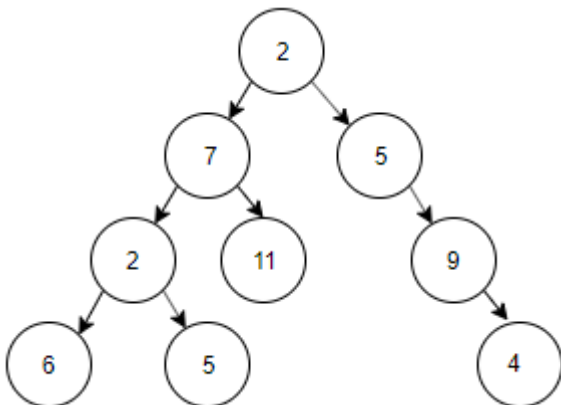
b.

4. Simplify the homogeneous relations below!
  - a.  $A(n) = -8A(n-1) - 16A(n-2)$ ;  $A(0) = 2$ ,  $A(1) = -20$
  - b.  $A(n) = 7A(n-1) - 10A(n-2)$ ;  $A(0) = 5$ ,  $A(1) = 16$
  - c.  $A(n) = 6A(n-1) - 9A(n-2)$ ;  $A(0) = 1$ ,  $A(1) = 1$

5. Find a path from 5 to 3 using Depth First Search!



6. Write the path of traversal of the Binary tree below using Pre-order Traversal!



Bonus Question:

7. Ren is going to pick 3 random general from the Syrian Rebels with 7 different generals. Out of the 7 generals, there are 3 that are Ren's favourite. What is the probability Ren will get all three of his favourite generals?