EXERCISE 13:

1. Consider the following network that contains the nodes (A,B,C,D,E). Node E is aware of the packet pools of its neighbors and all of them are in transmission range of node E. Node’s E goal is to maximize throughput through COPE (Opportunistic coding).

   - What is the best coding scheme for node E to transmit the packets such that all its neighbors can have the complete set of eight packets? (Note: A node can receive at most one packet in each transmission.)

2. Given the following irreducible polynomial $q(x) = x^3 + x^2 + 1$ in GF(8):
   - Calculate the exponentiation and logarithm tables.
   - Calculate the following multiplications:
     - $101 \times 011$
     - $110 \times 010$
     - $100 \times 101$