Let denote the random graph on vertices defined by the configuration model, with degrees .

1. How many edges does each graph drawn from the random graph have?  
     
   Let be the degree of node and be the number of edges and of graph .

Therefore, edges.

1. Are such graphs generated by connected?

Yes, since has no self-loops and one node has 9 neighbours, which is connected to every other node.

1. An algorithm to generate graphs from (pseudocode)
2. Given a graph which the connectivity is given by an adjacency matrix .
3. Pick two edges, and , at a random.
4. Create new edges , and such that and , and check they are not already in the graph.
5. If so, delete and and add and and go to (6).
6. If not, back to (2) and repeat the task.
7. Go back to (2) until satisfy a defined number of steps to swap edges..