Exercises for network randomization

1. Write a function to implement configuration / stub-matching procedure for randomizing networks while allowing for loops and multi-edges. The function should take a degree sequence as an argument.

2. Change the function in task 1 to generate only simple graphs. Hint: if the matching creates a loop or multi-edge try another.

3. Write a function to implement the switch randomization procedure that avoids loops and multi edges.

Homework

1. Write a function that determines the statistical significance of assortativity as a network property.
2. Write a function that determines the statistical significance that two nodes of degree k_1 and k_2 are adjacent.