Assignment 12-1  \textit{Modularity}

Compute the modularity $Q$ according to the following partitionings of the graph $G(V,E)$:

1. What do you expect to be the best partitioning of the graph? Why?
2. Remove edges $(C,D)$ and $(C,E)$ and compute $Q$ for $s_1 = \{A,B,C\}$ and $s_2 = \{D,E\}$
3. Remove edge $(B,C)$ and compute $Q$ for $s_1 = \{A,B\}$ and $s_2 = \{C,D,E\}$
4. Compare the results with your intention from subtask 1.

Assignment 12-2  \textit{Betweenness}

Consider the following graph:

Apply the \textit{Girvan-Newman Algorithm} and compute the betweenness of paths starting at node $A$. 