Below are a list of *suggested* exercises. You should also see the tutorial as a resource to get answers to questions you have, don’t feel compelled to stick to the sheet.

1. Draw an example of a weighted graph which has 2 MSTs.

2. Let $G, W$ be a weighted graph in which all edge weights are distinct. 
   Prove that the MST of $G, W$ is unique.

3. In line 3 of Prim’s algorithm, there may be more than one fringe edge of minimum weight. Suppose we add all these minimum edges in one step. Does the algorithm still compute a MST?

4. Kruskal’s algorithm can return different spanning trees for the same input graph $G$, depending on how ties are broken when the edges are initially sorted. Show that for *every* MST $T$ of $G$, there is *some* way to sort the edges of $G$ in Kruskal’s algorithm so that $T$ will be the MST that is returned.