0.1 Kruskal's Algorithm

Algorithm 1 Kruskal's algorithm

Let G be a connected graph with vertex set $V = \{1, ..., n\}$ and $\omega : E \longrightarrow \mathbb{R}^+$ a weight function. The edges of G are ordered according to their weight, that is, $E = \{e_1, ..., e_m\}$ and $\omega(e_1) \leq ... \leq \omega(e_m)$.

```
1: procedure KRUSKAL(G, ω, T)
2:     T ← ∅
3:     for k = 1 to m do
4:         if ACYCLIC(T ∪ {e_k}) then
5:             append e_k to T
6:         end if
7:     end for
8: end procedure
```

1) Create a graph F containing just the vertices of G.
2) Create a set $S = E(G)$; the edge set of G.
3) While S is non-empty and F is not yet spanning
3(a) Remove an edge with minimum weight from S.
3(b) If the removed edge introduces no cycles to F
then add the edge to F