Algorithm 1 Creating a spanning tree on a graph with per-vertex degree constraints

- 1: Graph G(V, E) with a total degree of 2n-2 where n is the magnitude of V
- $2: \ \mathrm{T} = \emptyset$
- 3: T += (v1,v2) where v1 is the vertex of largest degree in V, and v2 is the vertex of second largest degree. Decrement the degree of v1 and v2
- 4: while There exits a vertex in V and T with a degree >0 do
- 5: T+= (t,v) where t is the vertex of largest degree in t, and v is the largest vertex in $V \setminus T$
- 6: end while