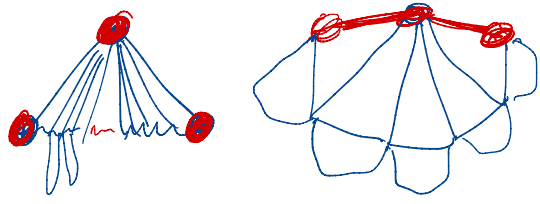
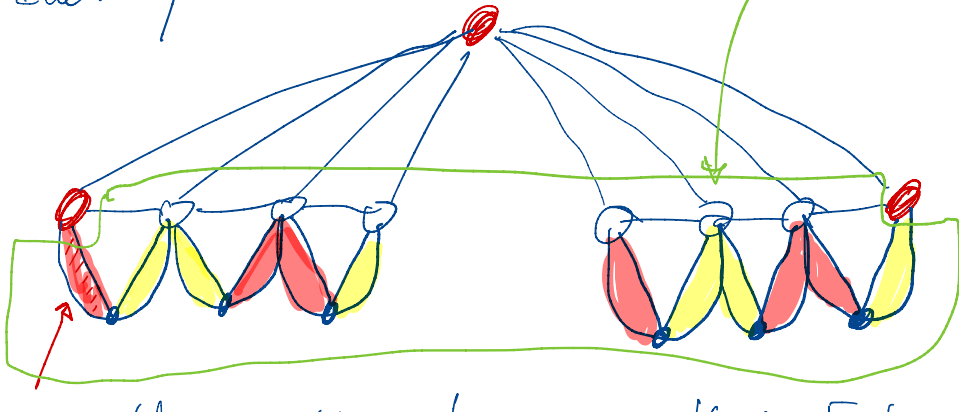
Solution for Outerplanar Graphs.

General Problem:



- Red vertices are pre-coloured with colours $\geq a(k-c)$.
- size of problem is $n \leq k!/c!$
- Identify



- Identify subproblems of size $> n/(c+1)$. Each of these subproblems has ≤ 3 boundary vertices. Colour those with distinct colours in $\{ak-ac \ldots ak\}$.
- Colour remaining pw 3 graph with colours in $ak-ac-a \ldots ak-ac-1$.

QED.