Algorithmique et Programmation

TD n° 5 : Parcours de graphes

École normale supérieure – Département d'informatique
algoL3@di.ens.fr

2016-2017

Exercice 1. Tree of blocks

DFS and BFS allow us to find the connected components of a graph. We can define the notions of higher connectivity and in some cases, be able to compute the "components" for

4. Show by constructing a polynomial time algorithm that every 3-colorable graph on n vertices can be colored with $O(\sqrt{n})$ colors.

   We can use the algorithm of Question 2 by noting that in a 3-colorable graph, for any given vertex u, the subgraphs corresponding to the vertices v such that uv is an edge is 2-colorable.