



PONTIFÍCIA UNIVERSIDADE CATÓLICA DE MINAS GERAIS  
INSTITUTO DE CIÊNCIAS EXATAS E INFORMÁTICA  
DPTO DE CIÊNCIA DA COMPUTAÇÃO – CIÊNCIA DA COMPUTAÇÃO  
ALGORITMOS EM GRAFOS – PROF. SILVIO JAMIL F. GUIMARÃES  
2021/1 (TRABALHO FINAL)

Aluno:

(não vale ponto)

**O trabalho deverá ser feita de forma individual, em dupla ou em trio. Ela deverá ser entregue no Canvas até às 23:59 horas do dia 05/06/2021.**

## QUESTION 1

Graph algorithms have been successfully applied to several computer vision and image processing problems, such as image segmentation. The main idea of the homework is in the application of graph cut algorithms to solve a problem of image segmentation focusing on using graph cuts to divide an image into background and foreground segments. So, your solution must consist of two parts. First, a network flow graph is built based on the input image. Then a max-flow algorithm is run on the graph in order to find the min-cut, which produces the optimal segmentation.

The implementation must be in c (or c++), and the image could be in pgm (or ppm) in a ascii format. The deliverable must be: (i) source code; and (ii) images to test.