

Dijkstra’s algorithm implementation
C project - G3 n.3, numerical calc and programming [145725] AY 2020/2021

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Abstract

C-code implementation of Dijkstra’s algorithm, inside a dedicated library to manage graphs. This library has also been extended so that a graph’s structure could be allocated inside heap to test Dijkstras algorithm. With the aim of getting a more user-friendly output, gnuplot takes care of plotting graphics to show the structure of the graph and the elaborated shortest path.

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1 Project request

Dijkstra. Write a software which reads a graph and given two nodes, calculates the minimum path with Dijkstra algorithm.

2 Introduction

This document has the main purpose of giving an overview of the project, deeping into theoretical aspects of Dijkstra's algorithm and how it has been implemented in C-code. While to have further details about technical aspects, there is the possibility to consult html documentation of the software (see '**Doxygen html documentation**' section inside '**README.md**' file).

3 Dijkstra's algorithm

Dijkstra's algorithm has been conceived in 1956, by a Dutch computer sientist called Edsger Wybe Dijkstra. The algorithm