The Final Project Task

CS321-Algorithms: Analysis and Design-general-level3

Objectives:

To enhance the student capabilities in implementing software tools achieving tutorial and real-life tasks.

1. Main Titles

1st Choice:

Maximum Flow and Dijkstra Algorithms.

2nd Choice:

Maximum Flow and Moore Algorithms.

2. Project/Task Input Description

Given a well-known graph, which has:

i. A set of vertices: V_1, V_2, V_3, … , V_n .

ii. A set of Edges: e_{ij} connecting the two vertices V_i, and V_j .

iii. The weight concerned with each edge.

iv. One Vertex is distinguished as a source, and another as a destination.

3. Project Requirements and Restrictions

i. Full analysis, design, implementation, and testing of only one of the two choices, indicated above.

ii. The source code and clear Pseudo Code must be provided.

iii. An extremely Friendly GUI must be available.

iv. No restrictions on the implementation programming language.

v.   Complete documentation describing the SW life Cycle of the concerned task, including:

      a. Cover page, describing:

- University and Faculty Logos.
- The project title.
- Department name.
- Student(s) nams(s).
- Student(s) Id(s).
- Student(s) National-Id(s).
- Student(s) E-mail(s).

      b. Introduction, including: A visibility Study and short description of the task to be achieved.

      c. Precise analysis and design phases supported by illustrative flow-diagrams, charts, snapshots,…

      d. Accurate implementation.

      e. Full discussion of the outputs graphs, with the ability to show it step-by-step. The original input graph must be drawn as a first step.

      f. Clarified Conclusions with clear and honest pros and cons for the achieved task.

      g. Suggestions for related future work.

      h. The references must be listed in the order: Author(s) name(s), Research/book title, Publisher, year of publishing.

vi.   Font Type: Times New Roman; Size: Headers(18), Text(14).