BLG336E - Final Report

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Question 1

a) Airline scheduling systems and image segmentation (as mentioned within our group's second presentation) are real life applications of maximum capacity algorithms. In airline scheduling it's used to determine *F* number of flights with at most *k* crews [1]. In image segmentation it's used to separate foreground and background objects from one another [2].

b) Since our implementation of the modified Dijkstra algorithm utilizes arrays, it can be concluded that the time complexity of the algorithm is $O(|V^2|)$ where *V* is the number of vertices (nodes).

Bibliography

1. Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein (2001). "26. Maximum Flow". Introduction to Algorithms, Second Edition. MIT Press and McGraw-Hill. pp. 643–668. ISBN 978-0-262-03293-3.
2. "Algorithm Design". www.pearson.com. Retrieved 2021-06-17.