Namal Institute Mianwali
Computer Science Department
Analysis Of Algorithm
Fall 21

Document:	**Assignment no 3**	**Date:**	**30-07-2021**
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Document Details:	**This document contains the related questions that may solved using the Dijkstra algorithm and its application that is airline recommendation system.**		

Airline Recommendation System

Procedure:

- We used the Dijkstra Algorithm in order to make this project.
- We modified the Baalti BFS in order to make the Dijkstra working in python.
- We make the helping functions.
- First of Read the given data and split it.
- Then convert the data into adjacency list.
- Then we pass the adjacency list along with root to the baaltiDijkstra function it will return the smallest distance with the parent.

Questions that can solve using this program:

- There are many questions that can solve using this program
- We just make it for few questions but it can modify further for answering more questions related to airline management system, I am still working on it to make it better.
- Some of the questions are the following:
    - Best Route having distance from the given city to the others
        - It will find the previous vertex having smallest distance as usually Dijkstra work greediness.
    - What is the smallest distance city from the given city?
        - Finding Distance between the two cities, if the best route is not directly approachable so it will show the indirect route.
    - What is the longest distance city from the given city?
        - It will show the distance that is far apart from the given city
    - What is the shortest path from the given city to all other cities having minimum cost? (under maintenance)
    - What is the smallest distance between any two cities having minimum cost?
    - If direct route is removed what should be the alternative shortest path between two cities?
        - When the direct route is removed, firstly it will make the distance 0 in the given data and then again Dijkstra Algo applies to it in order to find the alternative shortest path.
    - And many questions can be answered but there is need of modification.

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