

CL218 - Data Structures Lab

Task#09

Sajid is a resident of Islamabad and wants to go to Karachi. He has travelled to Karachi from Islamabad several times and has been through most of the routes. Therefore, he knows the distance between most of the cities that he passes on his way. This time however he wants to go to Karachi as quickly as possible. Help him find a route using which he can travel from Islamabad to Karachi in the least amount of time. He also wants to know the number of kilometers he has travelled by the end of his journey. The distance between cities and the approximate travelling time is as follows:

- Islamabad to Peshawar is 180 km and takes approximately 140 minutes
- Peshawar to Gujranwala is 390 km and takes approximately 360 minutes
- Gujranwala to Lahore is 96 km and takes approximately 130 minutes
- Gujranwala to Faisalabad is 174 km and takes approximately 200 minutes
- Lahore to Multan is 345 km and takes approximately 260 minutes
- Faisalabad to Multan is 240 km and takes approximately 200 minutes
- Multan to Sukkur is 440 km and takes approximately 400 minutes
- Sukkur to Hyderabad is 330 km and takes approximately 290 minutes
- Hyderabad to Karachi is 162 km and takes approximately 160 minutes
- Peshawar to Bannu is 198 km and takes approximately 240 minutes
- Bannu to Quetta is 683 km and takes approximately 660 minutes
- Quetta to Sukkur is 390 km and takes approximately 320 minutes
- Peshawar to Mianwali is 240 km and takes approximately 290 minutes
- Mianwali to Multan is 299 km and takes approximately 320 minutes
- Islamabad to Gujranwala is 220 km and takes approximately 230 minutes
- Islamabad to Lahore is 375 km and takes approximately 260 minutes

Note: Longer distances does not mean more time to travel. Similarly shorter distances does not mean less travel time from one city to another e.g. traveling from Lahore to Multan and from Islamabad to Lahore both take 260 minutes but the distance between Lahore to Multan is less the distance from Islamabad to Lahore.