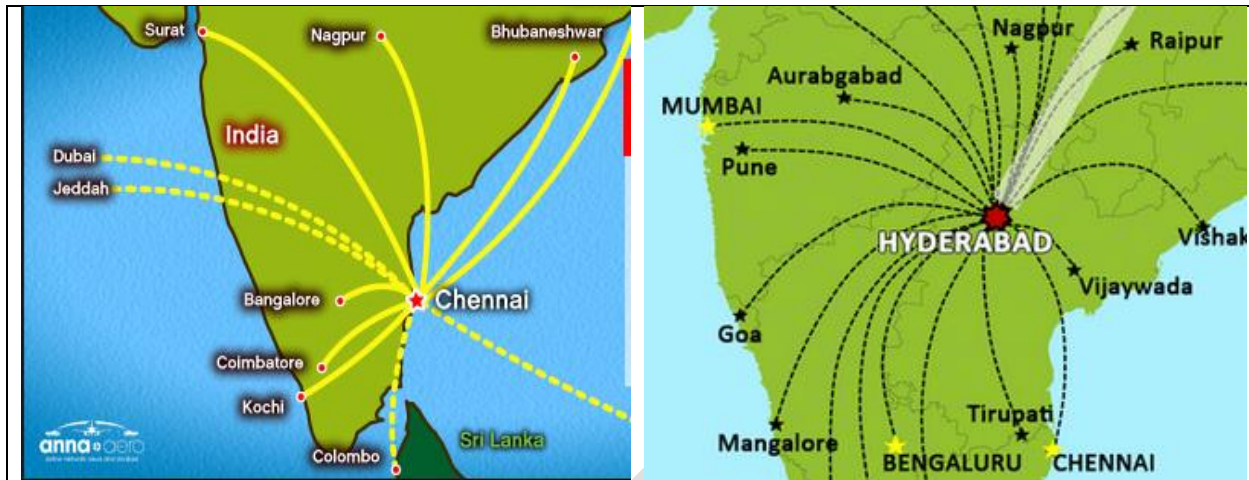


CREATIVE PROBLEM SOLVING

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Date 31/10/2014



Air Routes

CONCEPTS: Graphs, File Handling, Trie

LEVEL: Hard

Travel sites like Yatra, Makemytrip, Expedia do a great Job in helping customers find flights combinations based on a source and destination airport, travel dates etc. This makes it easy for customers to pick best prices and timings combinations. Determining Routes based on SRC and DST airport is a sub problem related to Graphs. This problem focuses on finding all possible routes between source and destination airports.

PROBLEM STATEMENT

You are given two files as command line arguments. First file contains list of airports and second file contains the routes between them airports.

Your program should ask user for SOURCE and DESTINATION airport code and number of HOPS and print all possible routes matching the specified criteria.

Sample Execution of Program

```
AirRoutes.exe C:\AirportDb.txt C:\Routes.txt
```

```
Enter Source Airport Code: DEL
Enter Destination Airport Code: HYD
Enter max number of Hops : 1
```

Possible Routes are:

```
DEL>HYD
DEL>AMD>HYD
```

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FILE CONTENTS OF - AirportDb.txt

0;IXZ;Port Blair;Veer Savarkar International Airport
1;VTZ;Visakhapatnam;Visakhapatnam Airport
2;GAU;Guwahati;Lokpriya Gopinath Bordoloi International Airport
3;GAY;Gaya;Gaya International Airport
4;DEL;New Delhi;Indira Gandhi International Airport
5;GOI;Goa;Goa International Airport
6;AMD;Ahmedabad;Sardar Vallabhbhai Patel International Airport
7;SXR;Srinagar;Srinagar Airport
8;BLR;Bengaluru;Kempegowda International Airport
9;IXE;Mangalore;Mangalore International Airport
10;COK;Kochi;Cochin International Airport
11;CCJ;Kozhikode;Calicut International Airport
12;TRV;Thiruvananthapuram;Trivandrum International Airport
13;BOM;Mumbai;Chhatrapati Shivaji International Airport
14;NAG;Nagpur;Dr. Babasaheb Ambedkar International Airport
15;IMF;Imphal;Tulihal International Airport
16;BBJ;Bhubaneswar;Biju Patnaik International Airport
17;ATQ;Amritsar;Sri Guru Ram Dass Jee International Airport
18;JAI;Jaipur;Jaipur Airport
19;MAA;Chennai;Chennai International Airport
20;CJB;Coimbatore;Coimbatore International Airport
21;TRZ;Tiruchirapalli;Tiruchirapalli International Airport
22;HYD;Hyderabad;Rajiv Gandhi International Airport
23;LKO;Lucknow;Chaudhary Charan Singh International Airport
24;VNS;Varanasi;Lal Bahadur Shastri Airport
25;CCU;Kolkata;Netaji Subhash Chandra Bose International Airport

FILE CONTENTS OF - Routes.txt

ATQ DEL
DEL GAU
DEL LKO
DEL HYD
DEL AMD
AMD BOM
AMD HYD
BOM HYD
IXE BLR
CJB BLR
CJB TRV
CJB COK
COK TRV
BLR TRZ

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BLR HYD
TRZ MAA
MAA HYD
HYD VTZ
HYD CCU
CCU GAU
CCU VNS
VNS LKO
GAU IMF

ROUTES.TXT (GRAPH)



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NOTE: These routes aren't actual routes they are just depicted for educational purpose only.

Degree of Airport Vertices
ATQ (1)
DEL (5)
AMD (3)
BOM (2)
HYD (7)
BLR (4)
MAA (2)
GAU (3)
IMF (1)
CCU (3)
VNS (2)
LKO (2)
TRZ (2)
COK (2)