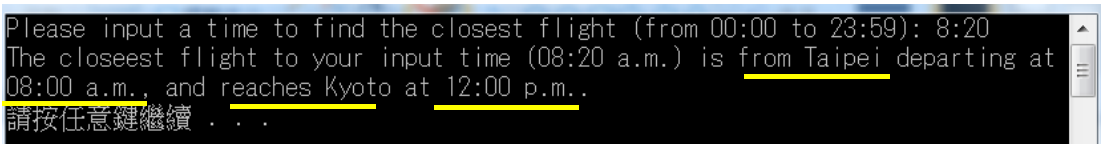
On-line Quiz 1 (2015/10/20) 18:30 ~ 21:30

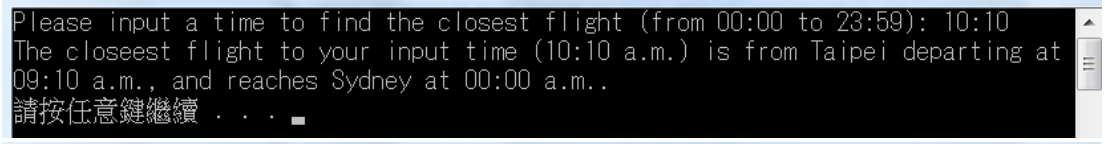
Problem: The following table shows the daily flights from one city to another. We assume the total number of flights is 9 and the total number of cities of starting and target cities is 10. For this program, you can assume these two numbers are fixed.

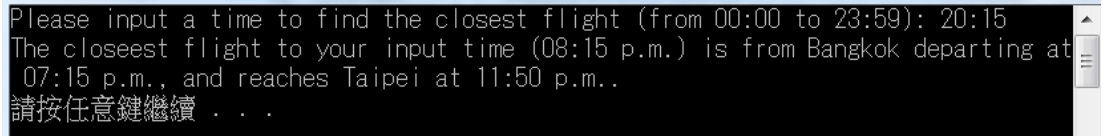
Depart. Time	Arrival time	From (City)	To (City)	Arrival Delayed time (minutes)
5:50 a.m.	11:10 a.m.	Taipei	Tokyo	0
8:00 a.m.	12:00 p.m.	Taipei	Kyoto	0
9:10 a.m.	23:10 p.m.	Taipei	Sydney	50
11:30 a.m.	2:10 p.m.	Taipei	Shanghai	10
1:20 p.m.	4:50 p.m.	Seoul	Taipei	0
3:00 p.m.	7:15 p.m.	Beijing	Taipei	0
7:15 p.m.	11:50 p.m.	BangKok	Taipei	0
9:30 p.m.	2:15 a.m.	Taipei	Bombay	15
11:20 p.m.	11:30 a.m.	Taipei	San Jose	10

1. (80%) Write a program that asks user to enter a time (expressed in hours and minutes, using the 24-hour clock). The program then displays the departure and arrival times for the flight whose departure time is closest to that entered by the user. If your program only can perform query once, you can get 70 points. If your program can repeat the query after previous query is finished, you can get 80 points. If two flights are equally closest to your time, then report the earlier flight.

Notice: Be careful to print the departure and arrival times (you also need to add the delayed time to arrival time if the delayed time is not 0), departing and arriving cities correctly. You can get 80 points if four items are printed out correctly. For these four items, you will get a -5 points if you print any one item incorrect. Besides, print 12:00 p.m. and 00:00 a.m. rather than 12:00 a.m. and 00:00 p.m.



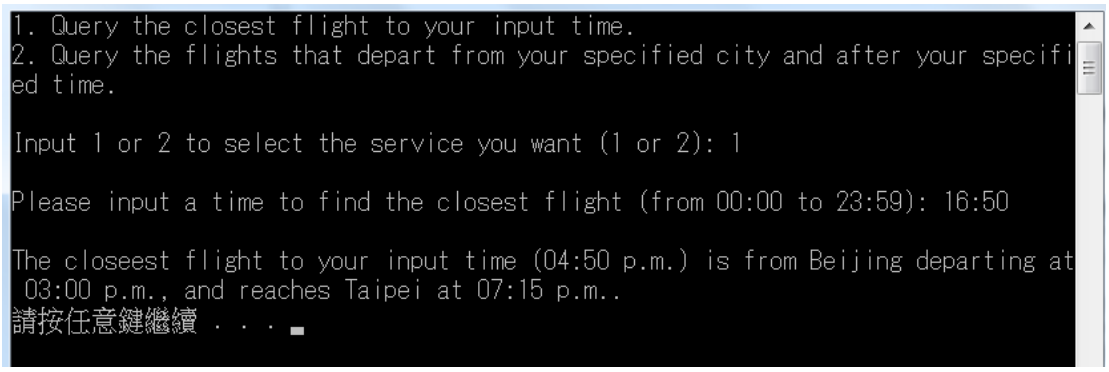


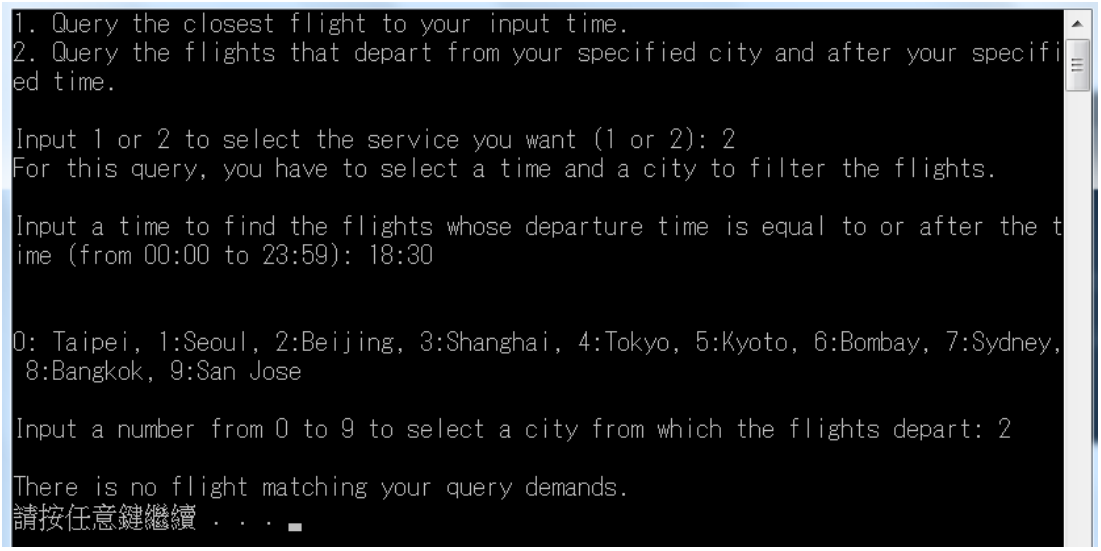


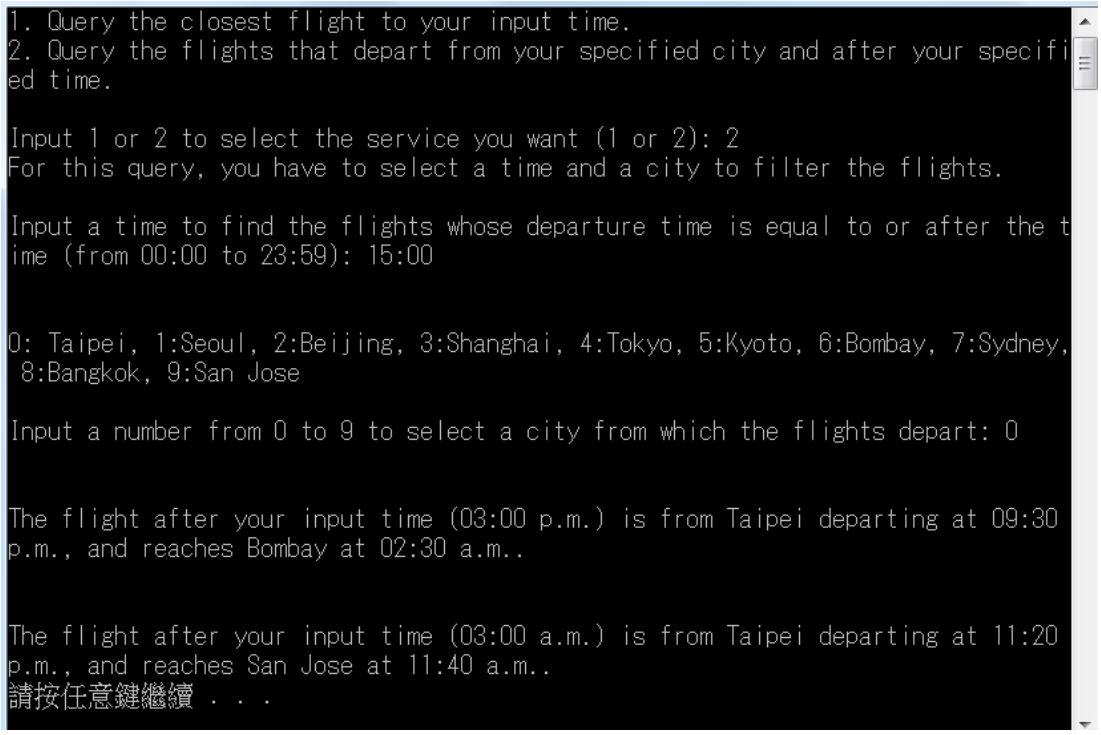
Hint: First, for fixed number of flights and cities to be reached, you can declare some arrays of fixed size to store the data in the table. Secondly, convert the input into a time expressed in minutes since midnight, and compare it to the departure time, also

expressed in minutes since midnight. For example, 13:15 is 13x60 + 15 = 795 minutes since midnight, which is closer to 12:47 p.m. (767 minutes since midnight) than to any of the other departure times.

2. (20%) Refine your program to offer two features. The first is the same as problem 1 while the second is to query all the flights that depart from your specified city and not earlier than your specified time. If your program can pass all tests in feature 2, then you can get 20 points. More failures in the test will get less points.






1. Query the closest flight to your input time.
2. Query the flights that depart from your specified city and after your specified time.
Input 1 or 2 to select the service you want (1 or 2): 2
For this query, you have to select a time and a city to filter the flights.
Input a time to find the flights whose departure time is equal to or after the time (from 00:00 to 23:59): 15:00
0: Taipei, 1:Seoul, 2:Beijing, 3:Shanghai, 4:Tokyo, 5:Kyoto, 6:Bombay, 7:Sydney, 8:Bangkok, 9:San Jose
Input a number from 0 to 9 to select a city from which the flights depart: 0
The flight after your input time (03:00 p.m.) is from Taipei departing at 09:30 p.m., and reaches Bombay at 02:30 a.m..
The flight after your input time (03:00 a.m.) is from Taipei departing at 11:20 p.m., and reaches San Jose at 11:40 a.m..
請按任意鍵繼續 . . .