CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
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Project Number
S1307

Project Title
Oh, The Places You'll Go: A Statistical Analysis of the Traveling Salesman Problem

Abstract

Objectives/Goals
To determine the cheapest route when flying between five cities.

Methods/Materials
Using Internet Explorer and the website Expedia.com, five cites were selected. A calender provided dates of travel with one business day stop-over at each city. I then used the Brute Force Method to determine if a pattern exicted. Pricing data was collected for each location and a tree diagram was used to interpret the information.

Results
No definite pattern emerged. In seven out of ten trials, one route proved to be the cheapest. While four out of ten trials showed another was cheaper.

Conclusions/Discussion
Although no definite pattern emerged, traveling in a circular pattern between cities resulted in lower prices.

Summary Statement
Without using the Brute Force Method, there is no distinct pattern to find the cheapest route between five cities.

Help Received
Dad helped create mechanism for keeping boards together.