CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
J1211

Project Title
The Monopoly Mystery: Probability vs. Personality

Abstract

Objectives/Goals
My objective was to determine which AI computer player wins the most games. I believe the more aggressive player, Type A, will win more games.

Methods/Materials
I programmed variables into Type A and B AI players with the help of personality profile research. I had the computer play 300 games; the first 100 with a Random AI player, the second 100 with a different Random AI player and the third 100 acting as a control with Type A and B players only.

Results
The results of my investigation indicated that the Type B AI player had the best playing strategy when all 3 AI players were playing. In the first 100 games Type A won 28, Type B won 55 and Random won 17. In the second 100 games Type A won 17, Type B won 58 and Random Jr. won 25. In the third 100 games Type A won 49 and Type B won 51. This proves that personality only plays a significant role in 3 player games while 2 player games rely totally on probability.

Conclusions/Discussion
After completing my investigation, I found that my hypothesis was incorrect. I stated Type A would win the most games but actually Type B did. I learned that both probability and personality play a significant role in who wins or loses the game and that trading is very important. Also 3 player games are much more complex and in-depth than 2 player games.

Summary Statement
To determine whether probability or personality plays a key role in winning the game Monopoly.

Help Received
Mother helped with gluing papers on the board.