The purpose of this project was to determine if counting cards affects the number of cards over dealer in a card game of Hi-Lo. This information would be beneficial to card players who wish to have an advantage over their opponent. If card counting is present, then the number of cards over dealer will increase. By testing 20 subjects (10 males and 10 females) and having each subject play 40 games of Hi-Lo (20 games without card counting and 20 games with card counting), data was found that supported the hypothesis, therefore, the hypothesis was accepted. The independent variable was card counting and the dependent variable was the number of cards over dealer. When the independent variable was utilized, the dependent variable increased significantly. In the control test, the average number of cards over dealer was 11.08 cards. In the second trial, the number of cards over dealer was 43.385 cards. In both trials, the range was 22 cards over a series of 400 games in each trial. Data collection was limited because of the test environment, lost data, the card game, the card counting method and participants. Not all tests were performed in the same controlled environment. Some data was lost, but was retested. To expand this project, more card games could be used (blackjack, poker, etc.) and other card counting methods could be used. Participants were amateur card players and the project could be expanded by doing the same test with professional card players.