Shooter’s Duel

James Zhang

Rule: Shooters A, B, and C have a duel. They fire in turns, and in each round a shooter can only fire once. Shooter A hits his target 75% of the time, shooter B hits his target 50% of the time, and shooter C hits his target 25% of the time. They will fire until only one shooter is left, and that survivor will be the winner.

I wrote a few Visual Basic programs to simulate that process, and A-B-C etc. represent the order of firing. In the first six programs, everyone tries to aim at the strongest player. In the last program labeled “Smart C-B-A”, when A and B are both alive, C aims at the sky. After one of A and B dies, C aims at the remaining shooter. Compared to the normal C-B-A game, the winning rate of C increased by 4.51%. The program runs 100,000 games every time, and I ran each program 10 times, resulting in a million games for each scenario.