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Using Python to Improve Your Poker Skills

Code for positive expected value decisions Aidan Wilson · Follow P

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Introduction to Pot Odds and Equity

Pot Odds

Pot odds, simply put, are the relationships between the total pot s

ize and the bet that you must call to see the next card. Pot odds explain th

e amount of money you will win for every dollar you put into it yourself.

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To calculate pot odds, simply divide the amount of money you must c

all by the total pot size if you were to call. For example, if the pot size

is \$100 and you must put in \$50 to call, you would do: $\$50 / (\$100 + \$50)$. Which w

ould give you pot odds of 1/3, or about 33%.

Hand Equity

Your hand's equity is the chance of improving your hand, or winning

with your hand, sometimes called winning odds.

Before calculating your hand's equity, you must first count your out

or the cards that will improve your hand to a winning hand. For example, if

you have 9 f, 10 f, and the flop comes, 7 ♣, 8 f, K f, you would have an o

nded straight draw as well as a flush draw. This would give you a total of 1

5 outs, because any diamond, 6 or J would improve your hand.

Comparing Hand Equity and Pot Odds

Hand equity and pot odds alone are not the most powerful weapons, b

ut when used together, they can make a poker player profitable in the long-t

erm by making positive expected value decisions.

If your hand's equity, or chance of improving to a winning hand, is

greater than the pot odds, it is a profitable decision to call the bet in the l

ong-term.

Python Implementation

The first step to making positive expected value plays in poker is to f

irst calculate our pot odds. To do this, we will divide the amount we must c

all by the total pot size if we were to call. This will give us our share of