

Database Construction

Since no relevant public database was available, we constructed the data set. Such data can be found in poker television programs that cover a large number of games. However, the majority of those games is not exploitable because they are drawn from tournaments or sit'n'go (e.g., World Poker Tour, European Poker Tour, Party Poker Premier League, Poker After Dark), or because folded hands are not always revealed (e.g., Aussie Millions, Million Dollar Cash Game).

To construct the database, we first identified all available poker TV programs and selected those meeting our criteria. Second, we watched all episodes and coded by hand the "Showdown," "Level," "Progress," "Status," and "Result" variables for each game, along with the two cards of each player and the cards on the board. This resulted in a first version of the database. Then, we created a code that computed the "Best" and "Strength" variables.

Coding of the Strength Variable

The strength of a hand was computed at different levels. For instance, for a game that reached the turn, the strength of each hand was computed at preflop, flop, and turn, even for those hands that folded prior to the turn. This allowed us to determine the best absolute hands.

The table below identifies weak, marginal, and strong hands for each level. (The meaning of each poker hand can be found at http://en.wikipedia.org/wiki/List_of_poker_hands.) Note that the coding of the hand strength variable at the preflop level is based on the Sklansky starting hands ranking, which includes eight groups as described by David Sklansky and Mason Malmuth in *Hold 'Em Poker for Advanced Players*. However, we removed pocket pairs 55 (group 6), 44, 33, and 22 (group 7) from their original groups to classify these starting hands as marginal hands.

	Preflop	Flop	Turn	River
Weak	-Group 6: 66, AT, 86s, KT, QT, 54s, K9s, J8s, 75s -Group 7: J9, 64s, T9, 53s, 98, 43s, Kxs, T7s, Q8s -Group 8: 87, A9, Q9, 76, 42s, 32s, 96s, 85s, J8, J7s, 65, 54, 74s, K9, T8	-High Card -Inside Straight Draw	-High Card -Inside Straight Draw -Low Pair -Middle Pair with weak kicker	-High Card -Low Pair -Middle Pair with weak kicker
Marginal	-Group 3: 99, JTs, QJs, KJs, ATs, AQ -Group 4: T9s, KQ, 88, QTs, 98s, J9s, AJ, KTs -Group 5: 77, 87s, Q9s, T8s, KJ, QJ, JT, 76s, 97s, Axs, 65s -55, 44, 33, 22	-Open-Ended Straight Draw - Flush Draw - Low Pair - Middle Pair with weak kicker	-Open-Ended Straight Draw - Flush Draw - Open-Ended Straight Draw + flush draw - Middle Pair with strong kicker (King or Ace)	-Middle Pair with strong kicker (King or Ace)
Strong	-Group 1: AA, KK, QQ, JJ, AKs -Group 2: TT, AQs, AJs, KQs, AK	-Middle Pair with strong kicker (King or Ace) -Top Pair - Two Pairs - Open-Ended Straight Draw + flush draw - Three of a Kind - Straight -Flush - Full House -Four of a Kind - Straight Flush	-Top Pair -Two Pairs -Three of a Kind -Straight - Flush -Full House -Four of a Kind -Straight Flush	-Top Pair -Two Pairs -Three of a Kind -Straight - Flush -Full House -Four of a Kind -Straight Flush

Note: s: suited, x: weak card