**Beat the Dealer Notes**

Rules – Pg. 8-15

* 1-7 players (fewer players = better for player)
* One 52-card pack. More packs = worse for player
* Players place all bets except insurance before cards are dealt
* Before play begins (STEP 1)
  + Shuffled by dealer
  + Cut by player
  + 1 burn card (may or may not be shown)
  + Dealer deals 2 to himself (one up one down) and to each of the players (both down)
* Player can choose 1 or 11 as value of an ace
* Face card = 10
* Soft hand if ace can be counted as 11 and total does not exceed 21
* Natural/Blackjack = hole cards of face card and ace.
* If player has natural and dealer does not = player wins 1.5 times bet
* If dealer has natural and player does not = player loses bet
* Both have naturals = no money changes hands
* The draw starts left of the dealer and goes clockwise (STEP 2)
* If player busts -> turn up hole cards and pay bet to dealer
* After all players have drawn, dealer turns up remaining hole card
  + Total <= 16 must draw card and continue to draw until total >= 17
  + If dealer draws ace and counting ace as 11 brings total to 17 or more, then he must count ace as 11 and stand
  + Dealer stands on soft 17
  + (Some casinos have dealer draw on soft 17 or less and stand on soft 18) = small advantage gained
* If dealer busts = player wins amount equal to original bet
* No one busts = higher total wins amount equal to original bet
* Equal totals = no money changes hands
* Some games, dealer takes all ties = huge advantage, avoid
* PAIRS: If player’s hole cards are identical
* Can choose to turn them face up and treat them as the initial cards in two separate hands. Original bet goes on each of the two hands and player automatically gets a second card face down on each of the hands
* Split aces: player receives only one card on each ace.
  + If a face card or ten falls on one of the aces, it is not counted as a natural but as a regular 21
* Can only split once. (Max of 2 hands)
* Doubling down: After looking at hole cards, player can double bet and draw one, and only one, more card.
  + Player who doubles down turns up his hole cards and receives third card face down
  + A player with split hands (except aces) can double down on one or both hands
* Insurance: If the dealers up card is an ace, player may put up an additional side bet equal at most to half his original bet.
  + If the dealer has a natural, side bet wins twice its amount
  + Otherwise, the side bet is lost
* Dealer: Can shuffle at any time between hands. Shuffles in the midst of play if the deck is exhausted

The Basic Strategy – Pg. 15-40

* Pg. 20 – Drawing or standing with hard hands
* Pg. 21 – Soft standing numbers
* Basic strategy, no doubling down, splitting pairs or insuring – casino edge of 2%
* Pg. 25 Hard & Soft Doubling down
* Only hard doubling – casino edge of 1%
* Pg. 28 – Pair splitting
* Split Pairs -> Double Down -> Draw/Stand

The Complete Point Count System – Pg. 93-101

* Keep track of exact count of number of unplayed cards
  + If a card is played and you do not see it, do not subtract from total
* Point count: 2,3,4,5,6 = +1; 7,8,9 = 0; 10,A = -1 Try adding 7&9
* Hi/Lo index: (Points)/(# of unseen cards)
* Bets:
  + Hi/Lo 2 or less – 1 unit
  + Hi/Lo 2-4 – 2 units
  + Bet index/2 units
  + Never bet more than 5 units – test out more though
* Pg. 98: Strategy tables

Pass player a deck instance to give access to unused cards (must account for burned cards) – add 1 for each shuffle?

Player class is going to access unused card count

Strategy class?

Player makes decision based on strategy class