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| NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_"Nine gamblers could not feed a single rooster". -Yugoslav proverb | **Prob and Stats** |
| BlackJack | **DATE: Wednesday, April 25, 2018** |

Review:

Stephen Curry makes 43.8% of his three pointers. In the next game, he is going to take 4 in the first quarter. Assume they are independent (if he makes one, he is no more or less likely to make any others)

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| P(makes all 4): | P(misses all 4): |
| P ( gets at least one): | P(misses at least one): |

Advanced: P(gets exactly one in [think of all the ways it could occur])

Lets start looking at blackjack:

Key

High value card: [10 or Ace]

Soft Total: If you have an ace, it is considered soft, because you can play it as a 1 or 11.

Say you are playing alone and you are dealt 2 cards:

Find the probability of getting:

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| 1. P(2 high value cards)
 | 1. P(no high value cards)
 | 1. P(at least one high value card):
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| 1. P(card worth 10, then Ace)
 | 1. P( Ace, then card worth 10)
 | 1. P (Blackjack)
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Advanced:Say you are playing alone and you are dealt 2 cards:

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| 1. P(something worth doubling down on 10 or 11 hard[meaning no aces])
 | 1. P(a decent hand (a total of 18 or more))
 | 1. P(a “soft” 13-16-the worst possible outcomes):
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Without replacement:

In poker, you are dealt three cards, find probability:

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| 1. All red
 | 1. All hearts
 | 1. All picture cards
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| There are 18 students available to represent the upperclassmen at a fair. 13 are Juniors and 5 are Seniors. What is the probability that both students will be seniors? | There are 18 students available to represent the upperclassmen at a fair. 13 are Juniors and 5 are Seniors. What is the probability that both students will be juniors? |
| You have 8 keys on your keyring that look identitical. Only one works. You take a random key and try it. If it doesn’t work, you randomly choose another one. What is probability neither key will work? | You have 8 keys in your pocket that look identitical. Only one works. You take a random key and try it. If it doesn’t work, you stupidly put it back in, and randomly choose again (could be same). What is probability neither key will work? |
| In your wallet you have the following paper money: 5 singles, 2 fives, 2 tens and 1 twenties. You pass by a guy asking for donation, you are in a rush and hand him 2 random bills, not paying attention. What is the probability you gave him both singles? | What is the probability you gave him at least one bigger bill? |