**March Mathness!**

If you watch any part of the **NCAA Men's Basketball Tournament**, you will hear a lot about each team's chances of winning.  Most of the time, these numbers are based on how the teams are seeded, or ranked, to make sure that the best teams will end up playing in the final rounds.  These seeds are based on the team's performance during the season, but also on the selection committee's opinions, so they are not completely mathematical.  However, they have proven to be a very good indicator of a team's chances of winning the tournament.

1. Find the probability of each seed winning the tournament based on the information in the chart.  Simplify fractions if possible.

**NCAA Men's Basketball Tournament Winners by Seed (Since 1979)**

|  |  |  |  |
| --- | --- | --- | --- |
| **SEED** | **WINNERS** | **PROBABILITY (Fraction)** | **PROBABILITY (Percent)** |
| #1 | 17 |   |   |
| #2 | 6 |   |   |
| #3 | 4 |   |   |
| #4 | 1 |   |   |
| #5 | 0 |   |   |
| #6 | 2 |   |   |
| #7 | 0 |   |   |
| #8 | 1 |   |   |
| #9 | 0 |   |   |
| #10 | 0 |   |   |
| #11 | 0 |   |   |
| #12 | 0 |   |   |
| #13 | 0 |   |   |
| #14 | 0 |   |   |
| #15 | 0 |   |   |
| #16 | 0 |   |   |

*Using a tournament bracket and the table above, answer questions 2 - 5:*

1. Which seed is the most likely to win?  Second most?  Third most?

1. How many seeds have never won a tournament?  Looking at your bracket, how many teams have no chance of winning based on probability?

1. What seeds have the least chance of winning but more than zero?  How many teams does this include?

1. Pick a team for yourself based on whatever criteria you want.  What is the probability of your team winning (based on seed)?  How many teams are more likely to win?

1. Ignoring the chart above, find the theoretical probability of any team winning all of their games on their way to winning the tournament.

**Challenge**

What is the probability of someone correctly picking the winners of **every game** in the tournament?

**Fast Facts**

* No No. 16 seed has ever won a tournament game.
* Four No. 15 seeds have won their opening round game, but none have advanced farther than the second round.  The last 15-seed to upset their 2-seed opponent was in 2001.
* The first and only time that all four No. 1 seeds advanced to the Final Four was 2008.
* On the other hand, there have been two tournaments where no No. 1 seeds have reached the Final Four: 1980 and 2006.