# Angry Negotiation Game

We will play the Angry Negotiation Game next class.  As preparation, please think about the game, answer the questions on the opposite side, **and turn in this sheet to the TA at the beginning of next lecture.**

## Description of Angry Negotiation Game:

There are two players, Union and Management, in an all-or-nothing negotiation over a specific issue.  (No compromise is possible.)   The negotiation continues until some side "Yields" or they get "Angry", after which no agreement is possible. More specifically:

**Payoffs in the Game**: Each player prefers most to reach agreement by having the other person yield, but would rather Yield itself than fail to reach agreement.  In particular,

|                              | Management Payoff | Union Payoff |
| ---------------------------- | ----------------- | ------------ |
| They get Angry               | 0                 | 0            |
| Union Yields, Mngt Doesn't   | M+100             | U            |
| Mngt Yields, Union Doesn't   | M                 | U+100        |
| Both Yield                   | M                 | U            |

M and U are each initially unknown variables, with each equal to 100, 200, or 400 with probability 1/3. Before the game starts, Management learns M and Union learns U (but Management does not learn U and Union does not learn M).

**Multi-Round Negotation**: Each round, the two parties simultaneously decide whether to Yield.  If either or both Yield, the game ends.  Otherwise there is a chance that they will get Angry.  After the first round, they get angry with probability 10%, after the second round they get angry with probability 20%, after the third 30%, and so on.  If they do not get Angry after a given round, on the other hand, the game continues to the next round with each again deciding whether to Yield.

**Example of play.**  (This example is not intended to illustrate good or bad play.)  Union learns U = 400 and Management learns M = 200. In Round 1, both choose Don't Yield. The 10% chance of Angry does not happen so we continue.  In Round 2, both choose Don't Yield.  The 20% chance of Angry does not happen so we continue.  Finally, in Round 3, Union Yields but Management does not.  Game ends with Union getting payoff 400 and Management getting payoff 300 (200+100).

## How would you play?

Suppose your opponent says one of the following quotes to you, just before playing.
First, is your opponent correct?  Second, what would you say back / do during the game?

1.  "Even if you have the highest value for avoiding failure (400), the prospect of
    winning an extra 100 is worth the 10% risk of losing 400 in Round 1.  So, no one
    should ever Yield in Round 1."

2.  "The way to play this game is to tell the other person that you are never going to
    Yield.  That forces them to Yield (and Yield immediately).  That makes sense,
    right?  Well, just so you know, I'm never going to Yield."

3.  Suppose your opponent is Professor McAdams and you are able to make one of
    the above statements before playing, but he is not allowed to respond.  Which
    would you say (you need not believe what you say)?

Your Name: _____