**Program 3**

For a 2-player normal form game:

1. Identify all strongly dominated strategies (by either player)
2. Identify any additional weakly dominated strategies ( by either player)
3. Identify all pure strategy equilibria (if they exist)
4. Identify Pareto optimal solutions.
5. Identify a minimax strategy for each player.
6. Identify a maximin strategy for each player.
7. Experiment with several strategies for each player. Label the output with the strategies used. How good were your strategies?

**Input File format:**

Number of actions for row player, number of actions for column player

Row player rewards (in row major order)

Column player rewards (in row major order)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | ***W*** | ***X*** | ***Y*** | ***Z*** |
|  |
| ***A*** | 4, 3 | 4, 3 | −1, −1 | −1, −1 |
| ***B*** | 0, 0 | 3, 4 | 0, 0 | 3, 4 |

Input would be:

2 4

4 4 -1 -1 0 3 0 3

3 3 -1 -1 0 4 0 4

**Output**

Test your program with input files prog2A.txt, prog2B.txt, prog2C.txt and an input file of your creation.

Compare your results with someone else in the class.