IE598: Homework 2 - Papavassilopoulos Panayotis-Philip
Problem 12 Results

a) This program finds all the Nash Equilibria of the matrices A and B. The matrices are of size mxn where m,n between [2,20] and A_{ij},B_{ij} between (0,1).

A test gave back the results:

```
Matrix A:
[[ 5 -1 -1]
 [ 4  3  0]
 [-1 -3  2]]
Matrix B:
[[ 3  1  2]
 [ 1  7  0]
 [-2  3  6]]
Pure Nash equilibria:
  Strategy profile: (0, 0)
  Strategy profile: (1, 1)
  Strategy profile: (2, 2)
```

b) We see that if we run the program in the end the counter says how many times out of the 1000 there was at least one pure NE.

We run the program 10 times with parameters m,n between [2,20] , A_{ij},B_{ij} between (0,1) and the results were the following.

Number of instances out of 1000 with at least one Nash Equilibrium:
1) 705/1000
2) 694/1000
3) 664/1000
4) 693/1000
5) 689/1000
6) 689/1000
7) 699/1000
8) 687/1000
9) 691/1000
10) 701/1000