

# Exploring Mixed Strategies with Sage

This sheet was last updated September 24, 2015.

The following instructions are demonstrated in this video: [https://www.youtube.com/watch?v=Jfz9pU\\_2oHM&feature=youtu.be](https://www.youtube.com/watch?v=Jfz9pU_2oHM&feature=youtu.be):

1. Create an account at <https://cloud.sagemath.com/>.
2. Copy the worksheet at [https://cloud.sagemath.com/projects/2caafc5b-408d-46cd-be4f-db5d1c/files/game\\_theory\\_demo.sagews](https://cloud.sagemath.com/projects/2caafc5b-408d-46cd-be4f-db5d1c/files/game_theory_demo.sagews) in to your own project.
3. If it's helpful this video explains most of the process <https://www.youtube.com/watch?v=QjXAvRiU40g>.

Using the code there solve the following games, confirm these results using the equality of payoffs theorem:

7, 3	4, 1
1, 2	6, 4

-4, 3	4, 2
1, 2	-3, 4

1, -1	-1, 1
-1, 2	1, -1

1, -1	-1, 1
-1, 1	1, -1