Econ 0100 | Homework D

Due: Sunday, October 29

Homework is designed to both test your knowledge and challenge you to apply familiar concepts in new applications. Answer clearly and completely; show your work so I can understand your thought process for partial credit; you are welcomed and encouraged to work in groups as long as your work is your own. Submit your work to the Lecture Gradescope.

Question 1 (of 2) | Dorm Room Kitchen

Harry and Ron share a dorm at Hogwarts and like to keep their kitchen stocked with snacks. They each have the option to contribute or not contribute to the kitchen snacks every week. They both like having the kitchen stocked even if they don't eat the snacks but neither likes the chore of buying the snacks. If they both contribute, the kitchen will be fully stocked and they both receive a payoff equivalent to 6 galleons. If only one of them contributes, the contributor is able to enjoy the partially stocked kitchen but also had to do the shopping, receiving a payoff equivalent to 2 galleons, while the other receives a payoff equivalent to 10 galleons. If neither of them contributes, the kitchen is empty and they both receive a payoff of 0 galleons.

		Ron	
		Contribute	Don't Contribute
Harry	Contribute	$6, 6$	$2, 10$
	Don't Contribute	$10, 2$	$0, 0$

a) Best Response Identify Ron's best response.

b) Dominant Strategy Identify Ron's dominant strategy if one exists.

c) Nash Equilibrium Does a Nash equilibrium exist in this game? If so, what is it?

d) The Phenomenon What well known phenomenon results from this game?

Question 2 (of 2) | Annual Yule Ball

Due to budget cuts, Hogwarts School of Witchcraft and Wizardry has decided not to hold the annual Yule Ball, which costs 1000 galleons to host. In response, the student administration has come up with two proposals to fund the event. The first proposal is to sell tickets to students, and the second proposal is to raise everyone's tuition to cover the cost of the ball.

To evaluate these proposals, the student administration has collected data on each student's willingness to pay for a ticket to the Yule Ball by house. This data is presented in the table below. There are 100 students per house.

	Gryffindor	Hufflepuff	Ravenclaw	Slytherin
WTP	2	3	3	4

a) Social Efficiency Would the social planner choose to hold the Yule Ball? Remember, each house has 100 students, with each student's willingness to pay represented in the table. So Gryffindor's total willingness to pay is 200 galleons.

b) Evaluating a Tuition Rise The first proposal would raise everyone's tuition by 2.5 galleons to cover the cost of the Yule Ball. If this proposal were voted on by the student body, would it receive a majority vote? Would it be fair?

c) Evaluating Tickets Instead, could the student administration generate enough ticket sales to cover their costs if they sold tickets to the Yule Ball? If so, what price would work?