Consider a pure exchange economy with two consumers A, B and two good types $1, 2$. Further suppose that each consumer has as utility function $u(x_1, x_2) = \max(x_1, x_2)$ and $0_1 = 0_2$, i.e. the total amount of each good type in the economy is the same.

a. Draw for this economy an edgeworth box with for each consumer some indifference curves.

b. Show that the allocation where consumer A has all goods is strongly pareto inefficient. Is it also weakly pareto inefficient?

c. Determine the set of strongly pareto efficient allocations.

d. Determine the set of weakly pareto efficient allocations.

e. Determine the core.

Consider the following 2-player extensive form game with perfect information given by the game tree
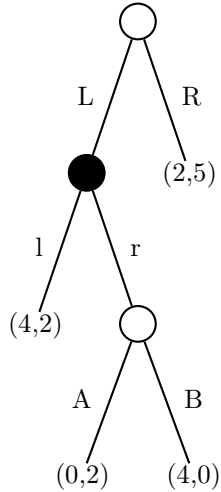
a. How many subgames, and which, does this game have?

b. How many, and which, strategies does player 1 have? How many, and which, strategies does player 2 have?

c. Give a completely elaborated plan of play for player 1 that is not a strategy.

d. Determine a normal form for this game.

e. Determine for each player the dominant and strictly dominant strategies.

f. Determine all nash equilibria.

g. Determine a mixed strategy nash equilibrium.

h. Determine all subgame perfect nash equilibria.