Your reading assignment is the first seven pages of Roemer (2021). Read the rest only if you are particularly interested in cooperation and Kantian modelling.

Roemer, John E. "What is socialism today? Conceptions of a cooperative economy." International Economic Review 62.2 (2021): 571-598.

If you are having difficulties to download the paper, go to sci-hub.tw to access the paper.

**Homework 2**

1. Suppose that two individuals share cake and coffee. The total available amount of cake is and the total available amount of coffee is . Their utility functions are
2. First equality. Show that equal sharing is Pareto-efficient.
3. Now inequality. Show that and is also Pareto-efficient.

Remark: These two questions (a) and (b) carry an important message: Inequality does not prevent efficiency. Unequal outcomes can be very well efficient.

1. Suppose and . Individual 1 offers exchanging 1 (small, say ) unit of for 1 (small, say ) unit of to individual 2. “Give me 1 small piece of y, I will give you 1 small piece of x” is the offer. Would they agree? (Hint: Loot at the MRS=MU1/MU2 for both individuals)
2. Using your answer above, decide whether and is efficient.
3. Consider an economy with two individuals. There are two goods: gold and food. The utility function of consumer is:

where is the consumption of good by individual .

1. Show that each individual satiates for food but not for gold. Satiation means a sufficiently high level of consumption would ensure further consumption would be detrimental for the well-being of the individual.
2. Assume that the initial endowments are and . Find the competitive equilibrium.
3. Consider an economy with two individuals and two goods. The utility functions of consumer and 2 are:

where is the consumption of good by individual . Assume that the initial endowments are

1. Draw the Edgeworth box.
2. Indicate the initial endowments on the Edgeworth box.
3. Plot the indifference curves passing through the initial endowments.
4. Show the set of all Pareto-efficient allocations (i.e. the contract curve) in the Edgeworth box.
5. Compute the perfectly competitive equilibrium and mark the equilibrium allocation on the contract curve. (Why should the equilibrium allocation be on the contract curve?)