1st Homework sheet Category Theory

- Deadline: 18 April, 13:00 sharp.

- Submit your solutions by handing them to the lecturer at the *beginning of the lecture*.

- Good luck!

Exercise 1 In this exercise we work in the category **Pos** of posets and monotone functions (see pages 6 and 7 in Awodey).

(a) *(2 points)* Characterize the monomorphisms in this category.

(b) *(3 points)* Do the same for the epimorphisms.

(c) *(5 points)* Show that this category has coequalizers and give an explicit way of constructing them.