The remainder of the course is devoted to Chapter 9 of Cutland, and material covered in the videos and the lecture notes at Bcours es. We are looking at ways of measuring complexity of predicates and functions which go beyond recursiveness and recursive enumerability. The videos on Bcours es as of 04/24 cover relative computability and Turing degrees. Next week we shall discuss the arithmetical hierarchy.

This homework is due one day later than usual.

Exercises due May 1:
From chapter 9: page 173, problems 1, 4, 6, 7, 8, 9, 10.
From lecture notes labelled “The arithmetic hierarchy”: exercises 1 and 2.
Additional problem: Let Fin = \{e \mid W_e \text{ is finite}\}.

(a) Show Fin is K-semidecidable.

(b) Show Fin is not K-decidable. (Hint: one way is to show that it is $\Sigma^0_2$-hard.)