

## Exercises for FLL, Fall 2014, sheet 1

*Return Wed Sep 10, in class*

*Note: you may work in teams of 2 if you wish. If you do, hand in a single solution sheet for both of you.*

**Exercise 1** (a) How many words exist over the symbol set  $\Sigma = \{1\}$ ? and over the symbol set  $\Sigma = \{a, b\}$ ? (b) How many words of length  $n$  exist over a symbol set of size  $k$ ? (c) How many languages exist over the symbol sets from (a) and (b)? (d) How many languages of words of length  $n$  exist over a symbol set of size  $k$ ? (e) How many *finite* languages exist over  $\Sigma = \{a, b\}$ ?