

**Aufgabe 1** (Sipser, problem 2.30, parts b and c)

Use the pumping lemma to show that the following languages are not context free.

(a)  $\{0^n \# 0^{2n} \# 0^{3n} \mid n \geq 0\}$

(b)  $\{w \# t \mid w \text{ is a substring of } t, \text{ where } w, t \in \{a, b\}^*\}$