

Exercise 6 – Regular Languages

Which of the following languages are regular languages, and which are not? Provide a short justification for each language.

- a) $A = \{0^n \mid n = p!, p \geq 1\}$
- b) $B = \{0^p 1^q \mid p \geq 1, q \geq p\}$
- c) $C = \{0^n 0^n \mid n \geq 2\}$
- d) $D = \{0^p 1^q \mid p, q \geq 0\} \cup \{0^n 1^n \mid n \geq 1\}$