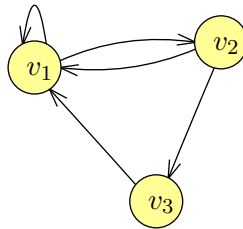


Questions for EZQuiz 1

- Define *total function* (p6)
- Define *partial function* (p6)
- Define *graph* (p8)
- What is the difference between a *walk* and a *path*? (p8)
- Define *cycle* (p8)
- If S it is a set, what does 2^S mean? (p5)
- Let $A = \{x, y, z\}$. Write down 2^A .
 - Solution: $\{\phi, x, y, z, xy, xz, yz, xyz\}$
- Example 1.5 (p10)
- Exercise 22 from Section 1.1.

– Solution:



cycles are $v_1 \rightarrow v_1$, $v_1 \rightarrow v_2 \rightarrow v_1$, $v_1 \rightarrow v_2 \rightarrow v_3 \rightarrow v_1$

- Define a *language* L on an alphabet Σ using (a) words, and (b) mathematical notation.
 - Solution: (a) L is a set of strings of symbols in the alphabet. (b) $L \subset \Sigma^*$.
- Define *grammar* (p21)
- Example 1.12 (p23)
- What is the difference between an *accepter* and a *transducer*? (p27)
- Define *dfa* (p38)
- Given dfa $M = (Q, \Sigma, \delta, q_0, F)$, define $L(M)$ in mathematical notation (p40).
 - Solution: $L(M) = \{w \in \Sigma^* : \delta^*(q_0, w) \in F\}$.
- Define *regular language* (p45)
- Exercise 2(c) from Section 2.1.